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Appendix: Doctor Fomomindo's Preliminary Notes for a Future Index of Anthropomorphized Animal Behaviors

Note from the Editors: To help our readers understand why we have decided to include Doctor Fomomindo's admittedly unusual (and eternally unfinished) catalog (the FOMANCOG) as an appendix to this special issue of *JFR*, let us begin by asserting something we believe to be uncontroversial: Humans like to tell stories about things they are interested in, and the more these stories relate back to the human condition (imagined or otherwise) the more interested (most) humans will be in those stories.

When we first learned of the FOMANCOG's existence, we thought it would be little more than an interesting source of inspiration for future projects aimed at understanding parallels between the stories scientists tell about animals and those already well cataloged by folklorists. After dusting off the binder that contained Doctor Fomomindo's notes, however, the full scope of his ambitions became apparent. We realized his would-be catalog had far greater import than we could have ever suspected.

The Doctor's catalog and his introductory remarks speak for themselves. Nonetheless, we feel compelled to publicly acknowledge that our understanding of his project continues to evolve. This should not be surprising. It is, after all, a liminal project, straddling the emic/etic razor's edge on which Doctor Fomomindo has for so long danced. At

Journal of Folklore Research, Vol. 56, No. 2–3, 2019 • doi:10.2979/jfolkrese.56.2_3.08

this moment, we envision it as an attempt to lay bare the sources of cognitive folklore that motivate much of the scientific enterprise in which he spent decades as a participant. From this perspective, his efforts can be seen as reducing to the claim that because the scientists who study higher-order animal cognition are, themselves, fully enculturated humans, their methods, results, and conclusions can only be understood by mapping (aligning) their work to the folklore they know and/or have (sort of) forgotten.

A disclaimer: we do not (necessarily) endorse Fomomindo's methods or his mappings. Nor do we (as of yet) possess the requisite expertise to judge the merit of what we understand to be his claims. We are increasingly convinced, however, that his catalogical work could be the foundation for an important enterprise aimed at understanding the scope of motifs, tale types, aphorisms, parables, myths, and legends that encage the human animal cognition project. Doctor Fomomindo is acutely aware that his incomplete catalog, his partially filled pitcher, contains no more than a drop of water from the ocean of comparative psychology—a sea of empirical results that has been rising for a century and a half. Nonetheless, from the notes to his colleague, Doctor Folklomindo, that appear sporadically throughout the FOMANCOG, it is clear to us that it remains his unshakeable belief that a structural juxtaposition of the questions, methodological quagmires, and theoretical controversies in animal cognition alongside known folklore, might one day serve as a trail of bread crumbs leading us out of a very dark forest. (NB: We are aware that this Appendix will be seen in a very different light by those who have very recently begun to ponder the possibility of approaching the question of animal cognition through a folkloristic lens. This is understandable. And yet, any intelligent future discussions of "animal folklore" will necessitate that all interested parties become intimately familiar with [read: *read*] the science. If nothing else, Doctor Fomomindo's catalog could be a jumpstart in that direction.)

Finally, a note about format. Although we recognize the archaic tint of the old school Courier font, Doctor Fomomindo's laboratory had a standard operating procedure prescribing differing fonts for protocols, data sheets, and results summaries. We therefore have elected to reproduce the index, with no apologies, precisely as we found it.

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94-TALES
Notebook 1

A Future Index of Anthropomorphized Animal Behaviors and their Connection to Comparative Psychology

A dear colleague of mine, Doctor Folklomindo, recently introduced me to several catalogs that folklorists use to both empirically document and indexically categorize certain structural and thematic elements of the narrative body of work that *Homo sapiens* have produced. As I studied these indices, I was both astonished and puzzled. Good heavens, the endless hours of human labor that must have been spent producing such exhaustive and detailed reference works! My perplexity soon gave way to excitement, however, as I realized how these scholarly tomes could animate my ongoing efforts to catalog the folk psychological challenges that confront anyone who attempts to objectively study animal intelligence. In a flash, I realized how naïve and frail (nay, anemic!) my past attempts had been. While all along, folklorists had already devised several rough-and-ready systems that I could co-opt to fulfill the boldest dream of my career: to document how the uniquely human mental faculty to ask (and answer) *why*-questions, limits our progress in understanding animal minds.

Yes, I still recall that morning, years ago, when, like the mythologized box-stacking chimpanzees of my hero, Wolfgang Köhler, I was struck with my own personal *Eureka!* moment—a divine revelation that all my efforts to ground higher-order human concepts in the animal mind were (to use an admittedly folksy turn of phrase) a fool's quest. Oh, but not just my research . . . the entire scientific edifice of animal cognition . . . a century-long exercise in tail chasing. All of the

ethereal, higher-order, analogical constructs I so desperately wanted to know if *the animals themselves* know about—constructs such as space, time, fairness, force, minds, weight, religion, culture, causes, family, motherhood, maps, mortality, feelings, numbers, language (I could go on)—were simply human redescriptions of the myriad first-order mental operations we have long known we share in common with animals of every size and stripe. But the unearthing of the operations of such ancient mental systems brought us no closer to answering if other species engage in higher-order redescriptions—if they share with us the analogical (metaphorical) wherewithal to conceive of gods, ghosts, or gravity. Rather, we were simply uncovering the fodder for our human "redescriptions." To be sure, this was a noble effort in its own right. But like [character {A}] in [tale type {Q}], we thought we were pursuing [goal {X.14–2}] when we were really pursuing [goal {Y.1}], so we were destined to meet [tragic end {Z.15–5}]. Our "scientific" protocols were increasingly resembling the storyboards of movies or plays or even fables.

But, behold! Thanks to my friend, the good Doctor Folklomindo, I now possess a new vocabulary to express myself: I can say with both rectitude and a high degree of confidence that motifs and tale types inundate the study of animal cognition! I challenged myself: Could a **FO**lk **M**otif-index of **AN**imal **COG**nition (a FOMANCOG, for short) be generated to rigorously catalog human stories and proverbs and fables and motifs and legends and myths and anecdotes and jokes and sayings and epics and folk songs that inform—nay, constitute—the very wellspring of our research efforts? Could every entry in said FOMANCOG become a focal point for a future folkloristic (I love this word!) investigation? And could such research be conducted under the umbrella of a yet-to-be-named subdiscipline dedicated to quantitative and theoretical investigations of the

impact of folklore on the cognitive operations of humans studying animals under the auspices of Science? After reading over a thousand or so animal folktales, the FOMANCOG that follows is my initial attempt to hurry this future forward.

A confession: I must admit that after reading so many animal folktales, I became itchy to write one of my own, one that could sum up what Doctor Folklomindo and I believe offers an important moral for the field of animal cognition. Once again, I challenged myself: If my former colleagues were to gather on a mountaintop to write a cautionary fable that captured what *they* believed was the primary obstacle to the objective study of animal cognition, what would it be? After some deliberation, I wrote the following:

> THE FOX AND THE APE
>
> A fox who was gathering grapes happened upon an ape in a cage.
>
> The Fox proposed an arrangement: "You have been captured by hunters and left in this cage and so you must be very hungry. I will leave my grapes here out of your reach and gather more. If you agree to scare away any thieves, I will split all the spoils when I return."
>
> The Ape promptly agreed. But as soon the Fox disappeared into the brush, the Ape reached out from his cage and snapped off a branch from a nearby bush and used it to rake in the grapes.
>
> When the Fox returned and saw the Ape had eaten her grapes, she exclaimed: "I do not know how you managed to steal my grapes, but it was my fault for assuming that I was so much smarter than you."
>
> Moral: Only the fool underestimates the intelligence of others.

Although I may lack the objectivity to know for certain, I do believe this fable accurately summarizes the view currently dominant among leading comparative psychologists. Of some minor interest and by way of contrast: in consulting several bibliographic sources focused on African folktales—which I have

discovered are underrepresented in the extant folkloristic indices—I stumbled upon a Nigerian folktale entitled, "The Tortoise and the Gourd of Wisdom." In it, the wise Tortoise decides to gather all the wisdom in the world and put it inside a gourd and then hang it in a tree. After collecting the wisdom, he ties the gourd to his chest and attempts to climb the tree. Alas, despite several tries, the gourd gets between himself and the tree, and he falls repeatedly. A man who is watching, tells him it would be easier if he tied the gourd to his back. The Tortoise does so and discovers the Man was right. But herein a Tortoisian paradox. If he had truly collected all the wisdom in the world, how can the Man have known a new trick? Despondent, the Tortoise cracks the gourd open and lets the wisdom spill out. He realizes it cannot contain all the earth's wisdom because man is wiser than the wisest of the animals (for the reference, see below: NFT/"The Tortoise and the Gourd of Wisdom").

While my work here surely remains *in progress*, I hope it will at least convince Doctor Folklomindo that we were right; there is significant overlap between the psychologist's descriptions of animal cognition and the characteristic representations of animals in the handful of folkloristic indices and idiosyncratic bibliographic sources I have consulted. Folklomindo well warned me that any such index could prove to be a siren song of sorts, and as I now run my fingers down the punctate, ever-expanding (and in some places uncomfortably haphazard) categories in this preliminary FOMANCOG, his caution proves prescient. With this in mind, I conclude by emphasizing my hope that this work be viewed as a rapid gesture sketch, an outline of the problem that might stimulate additional unending research into timeless questions including, most importantly, what do humans really want from animals? My working hypothesis is quite simple: to be just as human as we need them to be.

THE (PRELIMINARY) FOMANCOG

Sources:

ADLG — *A Dictionary of Latin and Greek Quotations, Proverbs, Maxims and Mottos*. Edited by Henry Thomas Riley. George Bell and Sons. 1909.

AFS^ — *African Folktales and Sculpture*. Selected by Paul Radin and Einore Marvel. Bollingen Foundation, Series XXII Pantheon Press. 1952.

AGFT* — *Agikuyu Folk Tales*. Ngumbu Njururi. London: Oxford University Press. 1966.

ATU — *The Types of International Folktales: A Classification and Bibliography, Based on the System of Antti Aarne and Stith Thompson*. Hans-Jörg Uther. 2004. Folklore Fellows Communications, No. 284–286 (Vol. 133–135). Helsinki: Suomalainen Tiedeakatemia, Academia Scientiarum Fennica. 2004.

BAF* — *The Book of African Fables*. Jan Knappert. Studies in Swahili Languages and Literature, Vol. 3. New York: Edwin Mellen Press. 2001.

CFT* — *Cajun Folktales*. J. J. Reneaux. Little Rock: August House Publishers. 1992.

CIP — *Curiosities in Proverbs: A Collection of Unusual Adages, Maxims, Aphorisms, Phrases and Other Popular Dicta from Many Lands*. Dwight Edwards Marvin. New York and London: G. P. Putnam's Sons. 1916.

FOB* — *Kalila and Dimna, Or, The Fables of Bidpai*. Translated by Wyndham Knatchbull. Oxford: W. Baxter for J. Parker. 1819.

FOJ* — *Folktales of Japan*. Edited by Keigo Seki. Translated by Robert J. Adams. Chicago: Chicago Press. 1963.

FTC — *The Folktale Cat*. Edited by Frank de Caro. Little Rock: August House Publishers. 1992.

FTFL* — *Folk Tales from French Louisiana*. Corinne L. Saucier. Baton Rouge: Claitor's Publishing. 1972.

FTM* — *Folk-Tales of Mahakoshal*. Verrier Elwin. London: Oxford University Press. 1944.

GGS — General Google Search

IMF — *Index of Mexican Folktalkes*. Stanley L. Robe. Folklore Studies: 26. Berkeley: University of California Press. 1973.

JSS^ — *Jamaican Song and Story*. Edited by Walter Jekyll. New York: Dover Publications. [1907] 1966.

MRT* — *A Treasury of Mississippi River Tales*. Edited by B.A. Botkin. New York: Bonanza Books. 1978.

NAAS* — *Native American Animal Stories*. Michael J. Caduto and Joseph Bruchac. Golden, CO: Fulcrum Press. 1992.

NCF* — *The Frank C. Brown Collection of North Carolina Folklore*, Vol. One. Edited by Newman Ivy White. Durham, NC: Duke University Press. 1952.

NFT* — *Nigerian Folk Tales*. Told by Olawale Idewu and Omotayo Adu and recorded by Barbara K. and Warren S. Walker. New Jersey: Rutgers University Press. 1961.

PER — Perry Index (NB: The modern summaries are from fablesofaesop.com, an online archive linking the Perry Index to short summaries connected to variants of the full text fables. Versions include Townsend, L'Estrange, Eliot/Jacobs, Jones, Crane Poetry Visual, JBR Collection [an 1874 collection], *Aesop for Children* [a 1919 collection with pictures by Milo Winter], *One Hundred Fables* [by J. Northcote], *Some of Aesop's Fables* [by A. and R. Caldecott], *Mille Fabulae et Una: 1001 Aesop's Fables in Latin*, *Fables de La Fontaine*, *Aesop in Rhyme* [by Jefferys Taylor], *Fables of Aesop and Others* [by Samuel Croxall]).

RFT* — *Russian Folk Tales*. Edited by Albert B. Lord. Avon, CT: Hertitage Press. 1970.

SAI — Source As Indicated

SFFT* — *Scottish Fairy and Folk Tales*. Edited by George [Brisbane] Douglas. New York: Arno Press. 1977.

SFLS* — *Storytellers: Folktales and Legends from the South*. Edited by John A. Burrison. Athens, London: The University of Georgia Press. 1989. [Chapter numbers indicated in brackets.]

TMI — *Motif-Index of Folk-Literature: A Classification of Narrative Elements in Folktales, Ballads, Myths, Fables, Mediaeval Romances, Exempla, Fabliaux, Jest-Books, and Local Legends.* Stith Thompson. Revised and enlarged edition. Bloomington and Indianapolis: Indiana University Press. 1955–1958.

^Tales are identified by numerals that correspond to numbered tales inside the cited work.

*Tales are identified by titles provided in the source text.

A. ANIMALS AND SPIRITUALITY[1]

1. Using methods from both religious studies and anthropology of religion, James Harrod concludes that chimpanzees engage in religious behaviors:

> A comprehensive review of primatology reports reveals that chimpanzees do perform ritualized patterns of behavior in response to birth, death, consortship, and elemental natural phenomena. A structuralist analysis of these patterns shows that chimpanzees deploy similar formulaic action schemas involving recombination of syntagmatic and paradigmatic behaviors across all four of these life-situations. In the course of these performances, chimpanzees decontextualize and convert everyday communicative signals to express non-ordinary

A1. Animals and Awe

A1a. Apes awed by (and dance for) rain[2]
(ADLG/"Then the prating of the crow, with loud note, invites the rain")(IMF/*82—In time of drought, animals direct litany to opossum to intervene and bring rains: "Saint opossum, ears of plush, hide of velvet, snout of amber, paws of silk!" Opossum is flattered.) (TMI/B192.2.—Rain-withholding deer killed: rain released. B791.—Elephants have power of bringing rain. D2143.1.1.—D2143.1.13.—Rain produced by [various forms of] magic. F420.1.3.11.—Water-spirit as ape-like creature.)

A1b. Apes awed by waterfall[3]

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emotions of wonder and awe. The patterning of chimpanzee ritual behaviors evidences all the components of a prototypical trans-species definition of religion. (2014, 8)

Note that he also suggests the possibility of extending this analysis to other species (cf. Bering 2001).

2. Jane Goodall (1971) first described the now-famous chimpanzee "rain dance" (which has often been linked to the possibility of a preternatural predilection among chimpanzees). Whiten et al. (2001) define the behavior as follows: "At the start of heavy rain, several adult males perform vigorous charging displays. Displays tend to return the males to their starting position, to be coordinated or in parallel, may include slow charges as well as rapid and may involve a variety of display patterns" (1492). After witnessing it for the first time, Goodall shares her reactions:

> I continued to sit there, staring almost in disbelief at the white scars on the tree trunks and the discarded branches on the grass—all that remained, in the rain-lashed landscape, to prove that the wild "rain dance" had taken place at all. I should have been even more amazed had I known I would only see such a display twice more in the next ten years. Often, it is true, male chimpanzees react to the start of heavy rain by performing a rain dance, but this is usually an individual affair. (1971, 53)

3. Goodall offers another classic anecdote in which she recounts chimpanzees stopping at a waterfall:

(TMI/F141.4.—Waterfall as otherworld barrier. B11.3.1.2.—Dragon's home beneath waterfall.) (BAF/ "The Goat Becomes a Pilgrim"—Goat heads to Mecca.)

A1c. Apes awed by the sea from a cliff[4] (BAF/"The Elephant and the Hare"—Animal council awed by miraculous intervention of spiritual world on behalf of elephant.) (TMI/F808.—Extraordinary cliff, thin as a hair, sharp as a blade, slippery as an eel's tail, high as a mast.)

A1d. Apes awed by forest fire[5]

Is it not possible that the chimpanzees are responding to some feeling like awe? A feeling generated by the mystery of water; water that seems alive, always rushing past yet never going, always the same yet ever different. Was it perhaps similar feelings of awe that gave rise to the first animistic religions, the worship of the elements and the mysteries of nature over which there was no control? Only when our prehistoric ancestors developed language would it have been possible to discuss such internal feelings and create a shared religion. (1999, 18)

4. An overlooked but ought-to-be-classic incident of chimpanzee awe occurred during Wolfgang Köhler's landmark studies of chimpanzee intelligence detailed in his monograph, *The Mentality of Apes* ([1917] 1925). Köhler directed a well-known series of experiments (including the iconic box-stacking-to-get-the-banana-hanging-out-of-reach study) using seven captive chimpanzees. The studies took place on Tenerife in the Canary Islands during World War I. The apes lived in a compound not far from the bluffs overlooking the Atlantic Ocean. At one point, his apes escaped from their outdoor compound, only to be found hours later, sitting quietly in a line on the rocks, staring out over the sea as the evening fell (see Ley 1990, 12).

5. Lin Edwards (2010) reports:

Unusual behaviors have been observed in wild chimpanzees in West Africa in the face of grass fires. The chimps did not panic or flee, and some made ritualistic displays that suggest they understand fire and do not fear it, and they may even be able to control it . . . Dr. Pruetz saw the behavior, including "fire dancing" on two occasions in 2006, and said she was surprised at

(FTM/"The Too-Helpful Monkey"—Frustrated monkey sets boy's house on fire.) (TMI/B251.8.—Animals observe sacred revelation.)

A2. Animals and Rituals

A2a. Chimpanzees worship at tree temples[6]

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how well the chimps could predict the behavior of the fires, which was better than her own ability. She said in one case there was fire on three sides, and yet the chimps remained calm, even though the flames and smoke were clearly visible. Pruetz said she thought their calmness could represent a key stage in controlling fire since it is necessary to overcome the fear before control becomes a possibility.

6. A recent report in *Nature Scientific Reports* describes video records of chimpanzees throwing stones at trees (Kühl et al. 2016). This behavior has prompted the speculation that these trees are chimpanzee temples. Laura Kehoe, one of the authors of the report, notes that

> Maybe we found the first evidence of chimpanzees creating a kind of shrine that could indicate sacred trees. Indigenous West African people have stone collections at "sacred" trees and such man-made stone collections are commonly observed across the world and look eerily similar to what we have discovered here. (2016)

The possibility of chimpanzees religion caused the story to be covered in forty-five news outlets and elevated the impact of this article to the ninty-nineth percentile of all articles tracked by Almetrics (a rating system tracking the amount of online attention an article receives). Simon Barnes (2016) writing for *The Daily Mail* expounds:

> Everything I have read and observed of humans and animals in the entire course of my life writing about our natural world has confirmed that we have so much more in common with our fellow creatures than we think. Whether we are talking about communication, intelligence, problem-solving, tool-making, awareness of self, the ability to experience grief, happiness, love and consciousness itself, Charles Darwin was—as usual—spot on when he said: "The difference in mind between man and the higher animals, great as it is, certainly is one of degree and not of kind." So why not add religion to the list?

(BAF/"The Monkeys"—Monkeys were once great builders who were tempted by Devil constructed tower to try to reach heaven and kill God with bows and arrows.)(IMF/72*E—Coyote becomes priest and starts out for his new parish with rabbit as altar boy.)(TMI/B253.1.—Snakes have mass. B253.2—Wolves have annual [church] feast. V111.3.1.—Birds indicate site where a church is to be built. J1447—The favored swine. Dog reproaches sow that Venus will not allow those who have eaten swine to enter her temple. Sow says that it is because the goddess abhors those who kill swine. F171.5.—Animals in otherworld pass in and out of church and become humans.)

A2b. Animal Funeral Rituals

A2b.1. Magpie tries to bury friend[7] (TMI/B251.2.12.—Birds take part at saint's funeral.)

A2b.2. Scrub jay funerals[8]

Rowan Hooper (2016), at *The New Scientist*, agrees:

> Perhaps [the chimpanzees] are paying respect to it, in some way. I've also heard stories of chimps performing dances in front of waterfalls. Maybe chimps have some understanding of impressive natural phenomena such as rain storms, wild fires and waterfalls and are paying "respect" to them. So I always hoped that we'd find evidence of a "temple" in the forest.

7. Marc Bekoff, a Professor Emeritus of Ecology and Evolutionary Biology at the University of Colorado, describes the burial rituals of magpies:

> One approached the corpse, gently pecked at it, just as an elephant would nose the carcass of another elephant, and stepped back. Another magpie did the same thing. Next, one of the magpies flew off, brought back some grass and laid it by the corpse. Another magpie did the same. Then all four stood vigil for a few seconds and one by one flew off. (2009, 85)

Bekoff notes, "We can't know what they were actually thinking or feeling, but reading their action there's no reason not to believe these birds were saying a magpie farewell to their friend" (84).

8. Iglesias, McElreath, and Patricelli 2012.

(TMI/A2223.7.—Ravens show Adam how to bury dead. Z32.—The funeral procession of the hen. Animals one by one join the procession.)

A2b.3. Elephant funeral rituals

A2b.3.a. Paying respect to bones of the dead

A2b.3.a.1. Elephant pays respect to relatives' bones[9] (NAAS/"The Dogs Who Saved Their Master"—Dog makes hunter promise to come back and gather his bones if he gives his life fending off monster.)(PER/447—A Lark found no place to bury her father and so used her head. This is why the Lark now has a crest.)

A2b.3.a.2. Elephant does NOT pay respect to relatives' bones[10] (NAAS/"Salmon Boy"—Boy does not respect bodies of the dead salmon so he is drown. Salmon People teach Salmon Boy how to respect the bones of the salmon he eats. He comes back to life.)

A2c. Grieving over the dead[11]

A2c.1. Mothers and babies

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9. Douglas-Hamilton and Douglas-Hamilton 1975; Moss 1988; Spinage 1994; Douglas-Hamilton, Bhalla, Wittemyer, and Vollrath 2006; and for a pop cultural gem, see: Scar to Simba in *The Lion King* (1994): "An Elephant Graveyard is no place for a young prince."

10. McComb, Baker, and Moss 2006.

11. For an overview of animal grief by an anthropologist, see Barbara King (2013). Another cultural gem is the play *Elephant's Graveyard* by George Brant (winner of the 2008 Keene Prize for Literature) which is billed as "the true tale of . . . the only known lynching of an elephant. Set in September of 1916, the play combines historical fact and legend, exploring the deep-seated American craving for spectacle, violence and revenge" (Samuel French 2019).

A2c.1.a. Mothers who carry dead babies

A2c.1.a.1. Orca whale mom sets world record for grief over dead baby[12]
(TMI/A2275.4.1.—Green pigeon cheated out of its chick: is always mourning.)

A2c.1.a.2. Primates (variants: chimps, gorillas, baboons, macaques)[13]
(BAF/"The Hyena and the Jackal"—Ram and Ewe say death prayers.)

A2c.1.a.3. Dolphin protects her dead infant[14]
(TMI/B256.3.1.—Deer furnish bier and bear saint's corpse to church.)

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12. Lori Cuthbert and Douglas Main (2018) reported on a major news story for *National Geographic*:

> An orca named J35 has finally dropped her dead calf, which she'd been pushing with her head for at least 17 days and 1,000 miles off the Pacific Northwest coast, in an unprecedented show of mourning that drew international attention. The sad spectacle was a prime example, and confirmation, of the complex emotional lives of these sophisticated cetaceans, experts say. Other orcas, and similar animals like dolphins, have been seen apparently mourning their dead, but this is by far the longest recorded example of such behavior. J35, nicknamed Tahlequah, is a 20-year-old member of the long-studied J Pod of Southern Resident Killer Whales. These orcas, along with their endangered extended family—K and L pods—inhabit a huge territory that includes waters off Seattle, Vancouver, and Victoria, British Columbia. Researchers worried that this "tour of grief" might seriously endanger the health of J35, but luckily, she appears to have made it through physically unharmed.

13. Biro et al. 2010; Cronin et al. 2011; Warren and Williamson 2004; Fashing et al. 2010; Sugiyama et al. 2009.

14. Hubbs 1953.

A2c.1.a.4. Giraffe cows react to dead baby[15]
(TMI/B301.6.2.—Faithful cow refuses to move for grief at master's death.)

A2c.1.b. Other reactions to dead babies

A2c.1.b.1 Chimp mom eats dead babies[16]
(FTM/"The Wagtail and the Mouse"—Baby (eggs) whisper that they want to eat mother when they are hatched.)(CIP/*English*—"The ape claspeth her young so long that at last she killeth them.")

A2c.2. Grief between different species

A2c.2.a. Koko the gorilla mourns Robin Williams' death[17]

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15. Bercovitch 2013.

16. Goodall 1977; Kooriyama 2009.

17. Before his death, Robin Williams visited Koko, a gorilla that had been hand raised by Dr. Francine Patterson since the early 1970s. After Williams' death, Patterson shared the news with Koko. An official press release of *The Gorilla Foundation* (2014) describes Koko's reaction:

> On Monday, Aug. 11, the day news broke of Williams' passing, Koko and Penny and Ron (Drs. Patterson and Cohn) were together when phone calls started coming in about the sad event. After the first call, Koko came to Dr. Patterson with an inquiring look on her face. Dr. Patterson explained that "we have lost a dear friend, Robin Williams." Koko was quiet and looked very thoughtful. . . . More phone calls about the news came in, and Koko overheard one from a former colleague who had worked with Williams while he filmed a public service announcement for The Gorilla Foundation (based on his visit with Koko) in 2003. The colleague's voice broke at the end of the conversation. About a half an hour later, Koko signed to Penny: "CRY LIP" (LIP is Koko's sign for woman). At the end of the day, Koko became very somber, with her head bowed and her lip quivering.

For related episodes in elephants, see Douglas-Hamilton et al. (2006) and Note 11.

(CFT/"M'su Carencro and Mangeur de Poulet"—Buzzard laments his lot in life is to wait for other animals to die before he can eat.)(TMI/B301.7.—Faithful lapdog dies when mistress dies. A2275.1.— Animal cries a lament for person lost when animal was transformed.)

A2c.3. Chimpanzee grief[18]
(AFR/23—Fox grieves for days over mother's death.) (BAF/"The Fly, or the Power of a Name"—Louse mourns death of husband.)

A2c.4. Pseudo-grief in piranhas[19]
(AFR/23—Wolf in grief after intentionally killing his mother.) (TMI/B301.6.1.—Cattle shed horns in grief.)

A2d. Reaction to sudden/tragic deaths

A2d.1. Chimpanzees witness death by fall from tree[20]

18. Brown 1879.

19. In a recent interview, Professor Frans de Waal of Emory University was asked about the widespread belief that animals mourn their dead. The interviewer recounted how, when one of his pet piranhas died, the other six behaved quite strangely. The interviewer then asked de Waal if they were grieving for their companion. Frans de Waal replied "I don't think so. Piranhas also take bites out of each other; I don't think they are very friendly with each other. In general, grieving is unlikely in fish—unless you have individually bonded fish which might be possible in some species." When asked why they were behaving so strangely, he stated, "Piranhas—like most fish—don't grieve. There is something called *Schreckstoff*—it is a substance that fish release when they are distressed. It is possible that your fish were just influenced by whatever happened to the other fish, in a more physiological way." Next, he was asked to explain the difference between that and "real" grieving. He explained: "Typical grieving happens with mothers and offspring in mammals. Usually, you find grieving with animals who have individual attachments, not just schooling or flying together, but having friends" (Osterath 2016).

20. Teleki 1973.

(AFS/22—Porcupine witnesses tragic death of her husband. 28—Tortoise mourns over his mother's tragic fall from tree.)

A2d.2. Magpies gather after sudden death[21]
(TMI/F1041.21.6.2—Bird in great grief tears out feathers.) (BAF/"The Hyena and the Jackal"—Ram and Ewe say death prayers.)

A2e. Animals and odors of the dead

A2e.1. Rats with a nose for the dead[22]
(AFS/31—Hare disguises himself in the skin of murdered Lion king and poses as king. King's wife becomes suspicious as death odor from her husband's skin grows stronger.)

A2e.2. Sea lampreys avoid deathly odors[23]

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21. Miller and Brigham 1988.

22. Carr, Landauer, and Sonsino:
In a two-choice preference test, 48 adult male rats responded to the odors collected from pairs of adult males, one member of each pair having been lethally poisoned earlier and the other not poisoned. Sixteen subjects reliably preferred ($p < .02$) the odor from a nonpoisoned male over that from a poisoned male that had died 5 min before the odor-collection period was terminated, as did 16 subjects whose poisoned male had died 45 min before the odor-collection period was terminated. Sixteen subjects whose poisoned male was alive but moribund when the odor-collection period was terminated showed no reliable preference for either odor. Laboratory rats can discriminate between the odors from living vs freshly sacrificed conspecifics. The discrimination is not mediated by the odor of the poison used or by a stress odor induced by malaise. (1981, 67)

23. Wagner, Stroud, and Meckley:
Here we confirm a long-standing anecdotal observation; the sea lamprey (*Petromyzon marinus*) actively avoids the odor emitted by decaying conspecifics. We extracted the semiochemical mixture produced by the putrefying

(BAF/"The Spider and the Jackal"—Jackal tells dog he can "smell a lot of dead rats here" and they leap out of trap the spider is tricking the rest of the animals into building around themselves.)

A2e.3. Crabs find new homes by smelling out shells of the dead[24]
(FTM/"The Crab-Prince"—Crab pleads not to be killed repeatedly; is saved each time.) (JSS/XXIII.—Spider tricks crab into to believing he is baptizing him, when really it is it a boiling pot. Crabs turns bright red. Spider eats crab for breakfast.)

B. ANIMALS AND TOOL-USE[25]

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carcasses of sea lampreys via Soxhlet extraction in ethanol and exposed groups of 10 migratory-phase lampreys to either the putrefaction extract (N = 8) or an ethanol control (N = 8) in a laboratory raceway. Sea lampreys rapidly avoided the putrefaction odor while exhibiting no response to the ethanol control. (2011, 1157)

24. Small and Thacker:
Crabs were attracted to dead conspecific odors up to 10 times more than to food odors. Crabs attracted to dead conspecifics displayed significantly more shell-acquisition behaviors: touching other crab's shells in an exploratory manner and switching shells if an empty shell was available." (1994, 169)

25. Charles Darwin described reports of tool use by chimpanzees and other primates in his 1871 classic, *The Descent of Man*:
It has often been said that no animal uses any tool; but the chimpanzee in a state of nature cracks a native fruit, somewhat like a walnut, with a stone. Rengger easily taught an American monkey thus to break open hard palm-nuts, and afterwards of its own accord it used stones to open other kinds of nuts, as well as boxes. It thus also removed the soft rind of fruit that had a disagreeable flavour. Another monkey was taught to open the lid of a large box with a stick, and afterwards it used the stick as a lever to move heavy bodies; and I have myself seen a young orang put a stick

B1. Animals and Sticks[26]

B1a. Sticks for reaching [variants: great apes, lesser apes, monkeys of all sorts (including baboons), other mammals, birds, etc.][27]

(TMI/A1446.—Acquisition of tools; A1446.0.1.—Culture hero steals tools for men.)

B1b. Long vs. short sticks[28]

(TMI/A2335.3.1—Origin of anteater's proboscis, transformed digging stick.)

B1c. Rigid vs. floppy sticks[29]

(TMI/A185.2.2—God makes man's hand rigid so he can no longer torment captive.)

B1d. Rakes and hook sticks [variants: chimps, monkeys, New Calendonian crows, ravens, rodents][30]

(AFS/31—Animal villagers pursue hare to burrow and use a hooked stick to try to fish him out.) (BAF/"The Frog and the Lion"—Lion fetches hoe to get rabbit out of his hole. "The Animals at the Market Place"—Lioness goes fishing.) (MRT/"The Eel and the Catfish"—Eels is hooked by fisherman, but saves his life by turning into a

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into a crevice, slip his hand to the other end, and use it in the proper manner as a lever." (51)

Since Darwin, the study of tool use and manufacture in animals has exploded. For an older (but stunningly expansive) catalog of animal tool behavior see Beck (1980). More recent historical overviews, summaries, and catalogs of animal tool use and manufacture are provided by Bentley-Condit and Smith (2010), Shumaker, Walkup, and Beck (2011), and Seed and Byrne (2010).

26. Beck 1980.

27. As Benjamin B. Beck (1980) notes: "The use of an object as a rake to reach an otherwise unreachable incentive is a classic paradigm in laboratory studies of primate tool use" (47). I propose to create a separate catalog to keep track of all the ways in which humans have studied animals making and using sticks and hook-like sticks.

28. Beck 1980.

29. Beck 1980.

30. Kumazawa-Manita et al. 2013.

hook and seizing larger catfish for fisherman.)(TMI/A1457.1.—Origin of the fish-hook. F531.3.12.1.—Giant threads an elephant on a fish-hook.) (SFLS/"[8]Rabbit and Fox at the Well"—Fox goes fishing and catches fish.)

B1e. Touching sticks vs. connected sticks[31]
(TMI/A625.2.1.—Heaven and earth originally connected by navel strings.)

B1f. Elephants make fly-swatters from sticks[32]
(BAF/"Mbuli the Hartebeest and the Mosquito"—Mosquito torments hartebeest who breaks her leg trying to swat him.)

B1g. Sticks for honey[33]
(TMI/A2823—Origin of churning stick.)

B1h. Miscellaneous stick tricks

B1h.1. Metasticks

B1h.1.a. Chimp puts short sticks together to make long stick[34]
(AFS/31—Hare ties hoe to lizard's tail so he can help him till the fields.)

B1h.1.b. Ever-expanding stick trick[35]
(BAF/"The Jackal and the Lion"—Jackal hammers sticks into ground to trap lion.)

B1h.2. Crow uses short stick to make/get long stick[36]
(BAF/"The Leopard and Squirrels"—Squirrels fetch twigs to make a pit trap. "The Elephant and the Hare"—Hare makes resin and glues horns on his head.)

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31. Beck (1980), but specifically, see Povinelli (2001) and Seed et al. (2012).

32. Hart et al. 2001.

33. Yamagiwa et al. 1988.

34. Beck 1980.

35. Beck 1980. Yerkes (1916) was impressed that his orangutans could learn how to connect up to five (human-made) sticks together to make a pole to push a food reward from a long, tube-like tunnel he had built.

36. Beck 1980. See also, Clayton 2007.

B1h.3. Parrot avoids the floppy stick[37]
(AFS/31—Lion's subjects cut rigid staves to beat him to death.)

B1h.4. The probing stick (a.k.a. the fishing wand)[38]
(AFS/23—Wolf finds a stick and uses it to stir pot.)

B1h.5. Gorilla stick tricks

B1h.5.a. Gorilla uses a wading-stick[39]
(BAF/"Ingratitude, or the Hippopotamus, the Hare and the Hyena"—Hyena gets ride across river on back of hippopotamus. "The Tortoise and the Baboon"—Baboon forced to wade across river.)

B1h.5.b. Gorilla uses water-smacking stick[40]
(BAF/"The Drought"—Animals bring digging sticks to dig for water.)

B1h.6. Savannah chimpanzees use digging sticks[41]
(FTM/"The Ant and the Charcoal"—Crows request horn from deer to dig for clay to make pot.) (NAAS/"Octopus and Raven"—Octopus uses wooden stick to dig for clams.)

B1h.7. Monkey without prehensile tail learns to use tail as a stick[42]
(ATU/2—The bear [wolf] is persuaded to fish with his tail through a hole in the ice. His tail freezes fast. When he is attacked and tries to escape, he loses his tail.)

37. Lambert et al. 2017.
38. Beck 1980.
39. Beck 1980.
40. Brown, Dunlap, and Maple 1982.
41. Hernandez-Aguilar, Moore, and Pickering 2007.
42. Erwin 1974.

B2. Animals and Ladders

B2a. Apes use boxes as a stepping stool to get banana[43]
(NFT/"Why the Tortoise's Shell is Cracked and Cooked"—Dog prays for mother in heaven to lower down a rope so he can climb up and eat with her.)

B2b. Time-traveling apes from Earth's past insulted at being asked to stack boxes to get bananas[44]
(FTFL/"The Hungry Bear"—Bear makes disparaging remarks about nest of wrens. Mother wren is deeply insulted and finds bear. Demands he take back his insulting comments.) (FTC/"Why Leopard Meets His Enemy Face-to-Face [Benin]"—Kitten proposes to insult leopard until she goes away.)

B2c. Apes use pogo stick to get bananas[45]
(GGS/"What's striped and bouncy? *A tiger on a pogo stick.*"[46])

B2d. Mouse makes ladder[47]
(BAF/"The Survivor Marries"—Rat and mole climb silk rope ladder spun by Spider.)

B2e. Chimps use each other as ladders[48]
(ATU/21—Wolves Climb on Top of One Another to Tree. Wolves climb on top of one another to tree. The hog [or man] in the tree. The lowest wolf runs away and all fall.)
[see also, H5b. "Chimps escape from compound to freedom using (fallen) trees"]

B3. Animals and Projectiles

B3a. Projectiles and Food

B3a.1. Crow drops the walnut on hard pavement[49] [variant: Japanese crow

43. Beck (1980), but the classic reference is Köhler ([1917] 1925).

44. *Escape from the Planet of the Apes* (1971).

45. Köhler (1917) 1925.

46. Whitlock 2015.

47. Zimmerman 1952.

48. Köhler (1917) 1925.

49. Cristol and Switzer 1999.

learns to use cars to crack nuts for him and observes traffic lights so as to not be killed][50]
(TMI/J101.—Crow drops pebbles into water jug so as to be able to drink. B31.1.2.—Roc [legendary bird of prey] drops rock on ship so large that it destroys ship.)

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50. Crows in Japan are reported to have not only learned how to drop hard-to-crack nuts onto pavement, but also how to drop them in the middle of traffic intersections so that cars will run the nuts over and crack them open. In addition, the birds are reported to have learned to wait for the pedestrian crossing signs to flash WALK so that they can safely venture into the street to retrieve the crushed nuts. A YouTube video excerpt of a David Attenborough / BBC wildlife film (2007) showing the behavior has received 1,699,380 views.

While I agree with Doctor Folklomindo that the textual presentations of online profiles are at least twice removed from genuine, human reports, I cannot help attend to a sampling of the most recent viewer comments, which depict a range of anthropomorphism, skepticism, and ambivalence: "I once saw a crow fill out a 1040 IRS tax form, then drop it in a mailbox." (DEO); "Very impressive! Think if I was driving in Tokyo and saw a nut in the road id run over it on purpose just for the crow" (Shane Earley); "Just wait 'till they figure out how to push the button . . . " (HowlingWolf518); "There are humans i know who are not as clever as these crows" (Karl White); "We used to watch the crows in Washington State put chestnuts under our car tires. It seemed like they had mostly learned to put them in front of my car's tires, because I always pulled forward away from the curb, and under my roommate's tires, because he always backed out of the driveway. Really smart critters. Came out one morning to find around 8 chestnuts in front of each of my tires and a whole bunch of crows sitting in the tree next to our house watching me get into my car!" (Post Epoch); "Laugh now, but one day they'll be in charge" (Solitaria Nihilista); "TIL [Today I learned] crows use crosswalks better than humans do." (Alexander Kemble); "Nothing to be surprised about. The crow is Asian." (LilWayne MetalGod); "crows are good peoples" (Zeckza); "Dolphins have to step up cause crows are in the lead now" (inkilass). At the least, we can assume that the animals are not posting these comments. See also Grobecker (1978); Maple (1974).

B3a.2. Gulls drop shellfish on rocks[51]
(BAF/"The Lizard and the Chain of Events"—Monkey drops heavy fruit on elephant's head.) (TMI/K401.2.2.—Crow drops stolen necklace in snake's hole, snake killed.)

B3a.3. Crows drop mollusks on hard rocks[52]
(TMI/A2211.11.—Tortoise dropped by eagle: hence cracks in his shell.)

B3a.4. Animals drop crushing projectiles

B3a.4.a. Egyptian vultures throw stones to crack ostrich eggs[53]
(TMI/2163.5.1.—Saint's prayer brings large flight of birds carrying stones in talons, these missiles dropped upon enemies cause terror.)

B3b. Animals using weighted tools

B3b.1. Monkeys use stones to crack nuts (variants: bearded capuchins, yellow-breasted capuchins)[54]
(AFS/29—Lioness uses massive stone to block entrance to her cave which can only be controlled by saying "Stone open" and "Stone close.")

B3b.2. Chimps use rocks to crack nuts[55]
(AFS/23—Fox uses rock to break wolf's teeth.)

B3b.3. Chimps roll heavy balls down ramp to get food[56]
(BAF/"The Frog and the Lion"—Lion chases hare into a hole and puts a stone at entrance to trap him.)

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51. Barash, Donovan, and Myrick 1975; Oldham 1930.

52. Whiteley, Pritchard, and Slater 1990.

53. van Lawick-Goodall and van Lawick-Goodall 1966.

54. Visalberghi et al. 2007; Anderson 1990; Canale et al. 2009.

55. Boesch and Boesch 1984.

56. Povinelli 2012 (NB: See especially, "Chapter 6, The Impact of Weight.")

B3b.4. Bird uses heavy stones to open trap door[57]
(BAF/"The Frog and the Lion"—Lion threatens to put heavy stones on frog to punish him.)

B3b.5. Sea otters use hammer stones[58]
(BAF/"The Jackal's Greed"—Jackal uses stone to open up gazelle's skull.)

B3b.6. Kanzi the Bonobo makes a stone tool[59]
(FTM/"The Monkey Son-in-law"—Monkey requests an axe.)

B3b.7. Anvil-using banded mongooses[60]
(FOJ/"Kachi Kachi Mountain"—Badger pretends to help old woman pound flour with mortar and pestle but then clubs and kills her with pestle.)

B3c. Weaponized projectiles

B3c.1. The chimp who threw missiles[61]
(see above, TMI/D2163.5.1.)

B3c.2. Chimps throw sticks at stuffed leopard[62]
(TMI/D451.6.3—Transformation: stick to weapon.)

B3c.3. Poop projectiles

B3bc.3.a. Fieldfare thrush bird emits well-aimed poop projectiles[63]
(IMF/103C*—Ass and lion each claims to be king of animals. Each shows the other how he fights. Lion uses claws to tear tree to shreds. Ass says that he shoots cannon balls, begins to bray and defecate. Lion is

57. Bird and Emery 2009a.
58. Houk and Geibel 1974.
59. Toth et al. 1993.
60. Müller 2010.
61. Osvath 2009.
62. Kortlandt 1975.
63. Löhrl 1983.

frightened.) (SFLS/"[10]The Little Bird"—Cow poops on cold and shivering little bird to help warm him.) (FOJ/"The Monkey and the Crab"—Monkey defecates into crab's burrow to try to flush him out.)

B3c.3.b. Accidental monkey poop dropping[64]
(FOJ/"The Monkey and the Pheasant"—Dung spreads itself on steps. Monkey slips and hits his head.)

B3c.3.c. Chimpanzee poop throwing[65]
(BAF/"The Two Friends"—Tortoise threatens to spoil leopard's basket with his poop.)

B3c.3.d. Elephants throw poop too[66]
(BAF/"The Hedgehog, the Camel and the Lion"—Hedgehog uses camel's excrement to scare away king lion.)

B3c.4. Crows throw rocks in political protest[67]

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64. Souza-Alves and Ferrari 2010.

65. Personal communication with many zoo visitors. Hopkins et al. (2005) tiptoe around this delicate issue in their catalog of 2,455 instances of chimpanzees throwing behavior in captivity. Although they do not mention what, exactly, the chimpanzees were tossing, we can infer from context that a substantial proportion of it was, indeed, poop.

66. Kühme 1963.

67. *RT News* reports:

> In a scene reminiscent of Alfred Hitchcock's thriller *The Birds*, a murder of crows has stoned several expensive vehicles parked near a regional legislative body in the Russian Urals, prompting internet jokes about possible political motives. "When leaving the office, I saw a group of drivers of ministers' and deputies' cars who were moving chaotically and swinging their arms," local lawmaker Maksim Ryapasov wrote in his blog. The drivers told the MP that fuss was caused by crows that were grabbing rocks from the roof of the building and 'bombarding' cars with them for several

(TMI/J369.2.—Ape throws away nut because of its bitter rind.)

B3c.5. Ant-lion sand projectiles[68]
(BAF/"The Frog and the Lion"—Hare throws sand in frog's eyes to blind him.)

B3c.6. Ants drop stone projectiles[69]
(CIP/*Malabar*—"Anger is a stone cast at a wasp's nest.")

B3c.7. Baboons throw stones as weapons[70]

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hours. The MP noted that there is a 'stone garden' on the assembly's roof, which was set up under the initiative of the legislature's chairwoman Lyudmila Babushkina. Apparently, it was those stones the crows used as weapons. As a result of the 'bird protest,' the windshields of at least three cars were broken. "I really don't know whose cars were there. But I personally saw a crow that threw a stone and then flew to get another one from the terrace," Ryapasov, the head of Liberal-Democratic fraction in the regional parliament wrote. "I'm not kidding," he added. The news has become a hit in the Russian blogosphere. In a battle of wits, users are actively discussing the 'protest action' of 'politically-active birds.' Experts though have their own explanation for birds' 'extremism.' Most likely, the crows were simply having fun, ornithologist Tatiana Surkova told 'Aktualno' information agency. "Crows love collecting different items, including stones, and piling them somewhere or throwing them down," she said. (Raza 2012)

68. Pierce 1986.

69. Möglich and Alpert 1979.

70. Darwin:

In the cases just mentioned stones and sticks were employed as implements; but they are likewise used as weapons. Brehm states, on the authority of the well-known traveller Schimper, that in Abyssinia when the baboons belonging to one species (*C. gelada*) descend in troops from the mountains to plunder the fields, they sometimes encounter troops of another species (*C. hamadryas*), and then a fight ensues. The Geladas roll down great stones, which the Hamadryas try to avoid, and then both species, making a great uproar, rush

(AGFT/"Hare in the Well in the Jungle"—Hare uses heavy stone to smash hyena on the head.) (IMF/74C*—Rabbit breaks jaguar's

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furiously against each other. Brehm, when accompanying the Duke of Coburg-Gotha, aided in an attack with fire-arms on a troop of baboons in the pass of Mensa in Abyssinia. The baboons in return rolled so many stones down the mountain, some as large as a man's head, that the attackers had to beat a hasty retreat; and the pass was actually for a time closed against the caravan. It deserves notice that these baboons thus acted in concert. Mr. Wallace on three occasions saw female orangs, accompanied by their young, "breaking off branches and the great spiny fruit of the Durian tree, with every appearance of rage; causing such a shower of missiles as effectually kept us from approaching too near the tree." (1871, 50)

Hamilton, Buskirk, and Buskirk offered confirmatory (albeit less dramatic) evidence of Darwin's report a century later:

> Anecdotal reports of stone throwing by baboons have been dismissed on the basis of the unreliability of correspondents and the improbability of oriented throwing by a quadruped anatomically incapable of overhand throwing. In spite of several years of field study elsewhere in Africa, often in rocky terrain, there are no reports by professional field observers of deliberate stone throwing by baboons. Nevertheless, in the course of a one-year study of three chacma baboon (*Papio ursinus*) troops living on the desert floor of the Kuiseb Canyon in South West Africa we observed numerous instances of stone release directed toward us. Stoning by these baboons is done from the rocky walls of the canyon where they sleep and retreat when they are threatened by real or imagined predators. Stones are lifted with one hand and dropped over the side. The stone tumbles down the side of the cliff or falls directly to the canyon floor. We recorded the details of 23 such incidents involving the voluntary release of 124 stones towards us. . . . This frequently resulted in stones whizzing over our heads. Usually we could dodge; but occasionally two or more individuals release stones at approximately the same time, complicating evasion. (1975, 488)

teeth with green pear, strikes him in eye with coconut. And Badger throws green zapote to coyote, whose teeth are smashed.)(see also, above: TMI/D2163.5.1.)

B3c.8. Elephants throw rocks at rhinos[71]
(BAF/"The Two Friends"—Dogs throw stones at leopards.)
[see also, "E12. Animals and Warfare"]

B4. Animals Use Tools for Transporting Food

B4a. Japanese ants make "jar" from sand to transport honey[72]
(BAF/"How the Goat Outwitted the Hyena"—Goat collects wild honey in a jar.)

B4b. Chimps use bowls to transport food/water[73]
(AFR/22— Mantis uses bucket as a bowl for meat, uses ladle to serve soup to All-Devourer.)

B5. Miscellaneous Animal Tool Tricks

B5a. Elephants (sort of) learn stick trick to open lids[74]
(AGFT/"Hare in the Well in the Jungle"—Hare uses long straw to breathe underwater to fool hyena.)

B5b. Digger wasps use stone hammers to pound nest soil[75]
(FOJ/"The Monkey and the Pheasant"—Monkey and pheasant use mortar and pestle to grind rice.)(IMF/*22—Opossum tells tiger that he is pounding testicles. Tiger takes large stone, pounds his. Opossum flees.)

B5c. Sponge tools

B5c.1. Dolphins teach each other to use sponges[76]

71. Wickler and Seibt 1997.
72. Tanaka and Ono 1978.
73. Takeshita and Van Hooff 1996.
74. Nissani 2006.
75. Brockmann 1985.
76. Krützen et al. 2005.

(see above, AFS/22)
[see also, "C4. Animal Teachers"]

B5c.2. Chimps use sponges to mop up water[77]
(NFR/"The Tortoise and the Gourd of Wisdom"—Tortoise gathers all of earth's wisdom and contains it inside a gourd.)

B5c.3. Ants use sponges too[78]
(NFR/"The Tortoise and the Gourd of Wisdom"—After realizing that man has secrets not contained in his Gourd of Wisdom, tortoise cracks it open and the knowledge seeps out.)

B5d. Apes do not know size of stick that will fit through hole, cannot get food[79]
(ATU/41—"The Wolf Overeats in the Cellar." The fox persuades the wolf to enter a cellar and steal food. The wolf eats so much that he cannot escape through the hole he had entered. He is killed.)

B6. Animals Pulling Strings for Treats (variants: over 160 bird/mammal/insect[!] species)[80]

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77. Goodall 1964.

78. Maák et al. 2017.

79. Visalberghi, Fragaszy, and Savage-Rumbaugh 1995; Tebbich et al. 2007; see also Povinelli 2001, Chapter 8, see Note 31.

80. Jacobs and Osvath describe the ancient history of the string-pulling problem and its connection to modern studies of animal psychology:

> The history of using this practice with animals is far older than comparative psychology itself. The first documented reference is from the Roman naturalist Pliny the Elder (23–79 AD), who describes goldfinches pulling up small buckets of water . . . A source of entertainment, the practice became so common that, since the end of the Middle Ages, the goldfinch has been called *putter* in Dutch; meaning one who draws water from a well. Similar names were present in German, English, and French in the 19th century . . . It spread to America . . . and may have originated independently in Japan, . . . The popularity of the practice is reflected in

B6a. [Random example #1] Vulture pulls string for pieces of chicken meat[81]
(AFS/23—Fox uses rope to tie sheep to tree. 28—Tortoise hides mother in tree and then ties string to basket so his mother can pull up food.)

B6b. [Random example #2] Raven pulls string of least effort[82]
(BAF/"You Cannot Win against the Elephant"—Bush pig ties string to elephant's leg to try to pull him in as meat, but cannot.) (PER/287—The Arab and his Camel. A Camel was asked if he preferred to go uphill or downhill. The Camel asked back if the flat way through the desert was closed? Wise Camel.)

B6c. [Random example #3] Bees pull strings to get nectar[83]
(NFT / "The Wasp and the Bee"—Bee listens to God and therefore knows how to put together all the things God require him to put together.)

B6d. [Random case study #4] Knots and strings
B6d.1. Apes understand knots[84]
(AFS/31—Hare flatters Lion and then braids his mane into ropes and ties him to tree.) (FTM/"The Origin of

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two 17th century paintings by Abraham Mignon; still-life pictures of fruit with goldfinches pulling water buckets . . . Overall, the practice seems to have had a wider cultural and historical impact than any other tests of animal intelligence. Perhaps people found it appealing to watch birds pull strings because it appears unusually clever. That said, although previously regarded as an interesting feat . . . in the 19th century making captive birds work for their food and water was heavily criticized as unnatural and cruel and, therefore, not suitable for studies by naturalists. (2015, 89)

81. Ellison, Watson, and Demers 2015.

82. Pfuhl 2012.

83. Alem et al. 2016.

84. Mayer et al. 2014.

the Tiger Clan"—Tiger ties rope to a pot and lowers it into a well.)(NFT/"The Tortoise and the Boar"—Tortoise ties rope to his tail.)

B6d.2. Apes do NOT understand knots[85]
(BAF/"The Hare, the Rat, the Lion and the Tortoise"—Tortoise not any good at tying strings.)(NFT/"The Tortoise and the Boar"—Tortoise ties rope to his tail to make himself look bigger and boar is fooled.)

B6d.3. Apes may or may not understand knots[86]
(SAI/A "monkey-fist" is informal nautical term referring to a "lumpy knot worked into the end of a long light line . . . to add weight to the end of this cord")

C. ANIMALS AND COMMUNICATION

C1. Animals and Language Acquisition[87]

C1a. Humans rear apes in their homes to teach them language[88]

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85. Detailed in Chapter 9, Povinelli (2001), see Note 31.

86. Finch 1941.

87. Anderson (2004) provides a lively introduction to the human ascription of language to animals.

88. As Franz Kafka's *Report to an Academy* amply testifies, humans have long believed in the alchemic possibilities of immersing chimpanzees (and other great apes) in human culture—including human language. In this case, the "gold" would be achieved by altering the natural mental trajectory of apes and turning them into humans; "silver" would be transforming these apes into almost-humans (early statements of these ideas can be found in Witmer 1909; Furness 1916; Kellogg and Kellogg 1933; Hayes and Hayes 1951). Beginning with a project by Allen and Beatrice Gardner (1969) (and chimpanzee named Washoe), a flurry of projects were unleashed in the 1960s and 70s that attempted to bring this vision to life in earnest. The projects raised a number of great apes in human environments and used a diverse array of methodologies to try to teach them human language: gestural signs, plastic tokens, visual symbols, and even spoken English. For perspectives on the results of these

(AFS/25——Speaking frog leads girl on journey.) (ATU/517——The Boy and the Bird language. The learning of the speech of birds.) (GGS/A man in a movie theater notices what looks like a chimpanzee sitting next to him. "Are you a chimpanzee?" asked the man, surprised. "Yes." "What are you doing at the movies?" The chimpanzee replies, "Well, I liked the book."[89]) (FTC/"The Linguistic Cat [England]"——Cat overhears mice communicating in both cat and dog language. When cat hears mice say in dog language that dog has left, she pounces on them, and says to herself that she always knew it would be useful to have a second language.) (NAAS/"Salmon Boy"——Drowned boy enculturated into the world of the Salmon People. "The Woman Who

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ape language projects, I personally recommend Ristau and Robbins (1982) and the (quite frankly) devastating analysis by Rivas (2005). Other reviews and perspectives can be found in Premack (1985), Hixson (1998), Lyn (2012), and Tomasello (2017). (Though dated, I still find that one of the most readable [if overly romantic] explorations of this history can be found in Desmond [1979].) By the 1990s, the idea of "ape enculturation" had become a lightning rod for explaining seemingly contradictory experimental results with apes on a variety of cognitive tasks. Numerous theorists proposed that the varying degrees of human enculturation could explain the (apparently) discrepant findings. The mere experience of spending time with loving human caregivers (language inputs aside) was seen as a powerful enough environmental input to massively reorganize the mind-brain of apes. Jesse M. Bering (2004) provides a thoughtful overview of the theoretical ideas at stake in this idea. (In due candor, I should mention that I spent five years of my life attempting to design and implement the "Early Experience and Enrichment Project"——an inclusive effort with teams of scientists from around the globe to test the idea once and for all. For a variety of reasons far too long and painful to detail here, the project never came to full fruition [see CEG lab codebook, 8709-07 and associated file drawers; for some preliminary results, see Vonk and Povinelli 2011].) Curiously, the enculturation idea has largely fallen out of favor, despite the fact that there was no systematic attempt to test it. See also Anderson 2004. See Note 86 above.

89. Jokes4us.com 2019b.

Married a Frog"—Frogs have learned human language by listening to them. "The Boy and the Rattlesnake"—Speaking rattlesnake.) (NFT/"Why Apes Look like People"—Tortoise proposes changing animals into humans.) (TMI/B210.1.—Person frightened by animals successfully replying to his remarks. B210.3—Formerly animals and man spoke the same language. K551.11.—Ten-year respite given captive while he undertakes to teach elephant (ass) to speak.)

C1b. The chimp who invented words[90]
(NAAS/"How Grandmother Spider Named the Clans"—Spider gives all animals their names.)

C1c. The chimp who asked a question[91]
(NAAS/"How the Fawn Got Its Spots"—Deer asks The Great Mystery (Wakan Tanka) a rhetorical question. "Octopus and Raven"—Raven torments octopus by asking annoying question over and over again.)

C1d. Apes understand "no"

C1d.1. Yes they do[92]
(AFS/23—Clever fox selectively repeats only last part of the wolf's plea to the lion ("Do not let him get away!") as "Let him get away!" Lion is fooled by the dropping of the negation and lets fox get away.)

C1d.2. No they do not[93]
(see previous—AFS/23)

C1d.3. Bonobos shake their heads "no"[94]
(NAAS/"The Rabbit Dance"—Rabbit nods "yes.")

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90. Roger S. Fouts and Randall L. Rigby (1977) reported that Washoe the chimp invented new "words" for things in his environment by combining signs he did know. For example, Washoe is reported to have created the novel utterances (gestures) WATER-BIRD for swans and ROCK-BERRY for Brazil nuts.

91. *NOVA* 1974.

92. Premack 1976.

93. Muncer and Ettlinger 1981.

94. Schneider, Call, and Liebal 2010.

C1e. The parrot Polly who asked for a cracker[95]

(BAF/"The Girl and the Crocodile"—Speaking tree.) (NAAS/"The Alligator and the Hunter"—Speaking alligator.) (TMI/B211.3.—Speaking bird.)

C1f. The Parrot who (said) she loved me[96]

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95. Using the OED, I was able to trace the earliest use of "Poll" to refer to a parrot to Ben Jonson's *Every Man Out of His Humor* (1600). Entries after that show an increasing use of the term "Poll" or "Pall" for parrots as well as the closely allied "Polly"—most notably in Charles Dickens' *Dombey and Son*. I have also discovered an episode of a public radio show in the United States, *A Way with Words* (Barnette and Barrett), that first aired on February 8, 2009, which traced the origins of the specific phrase "Polly want a cracker" to a mock ad in a mock newspaper, *Bunkum Flag-Staff and Independent Echo,* published in 1849 in *The Knickerbocker* magazine. *A Way with Words* notes: "It starts, 'For sale, a Poll Parrot, cheap. He says a remarkable variety of words and phrases, cries, 'Fire! fire!' and 'You rascal!' and 'Polly want a cracker,' and would not be parted with, but having been brought up with a sea-captain he is profane and swears too much.'" The episode also details an 1848 cartoon of a boy about to crack a parrot over the skull with a stick asking, "Polly want a cracker?" (I also discovered this bit of trivia: *Bits and Pieces* [2019], an online retailer, sells a motion-activated parrot statue that exclaims, "Polly want a cracker!" for [you guessed it] $19.99.)

96. From Wikipedia:

> Alex (May 1976–6 September 2007) was a grey parrot and the subject of a thirty-year (1977–2007) experiment by animal psychologist Irene Pepperberg, initially at the University of Arizona and later at Harvard University and Brandeis University. When Alex was about one year old, Pepperberg bought him at a pet shop. The name Alex was a backronym for avian language experiment, or avian learning experiment. (2019a)

Alex died unexpectedly but may have offered clues that he knew he was about to die. Benedict Carey (2007) explains in an obituary in *New York Times*:

> Even up through last week, Alex was working with Pepperberg on compound words and hard-to-pronounce words. As she put him into his cage for the night last

(ATU/243—The Parrot Pretends to be God. 1422—The Parrot and the Adulterous Woman.) (IMF/237*D—Inappropriate remarks of the parrot. A woman sends talking parrot to nuns in a convent. Its inappropriate remarks enrage a priest during religious service.) (TMI/B211.3.4.—Speaking parrot.)

C1g. Enculturated ape passes human language to her child[97]
(ATU/535—"The Boy Adopted by Tigers [Animals]")(BAF/"The Friendship of the Wild Animals"—Lion enculturates boy who then returns to humans who raise him as a human.)(NFT/"Why Apes Look like People"—Monkeys and apes find last dregs of tortoise secret medicine that changes animal into people.)

C1h. Humans and horses invent common language[98]
(BAF/"The Language of the Animals"—King of the departed gives dead man gift of understanding all animal languages.)(FTM/"The Raja and the Cowherd"—Magic stone grants cowherd's wish to be able to understand the language of his cows.) (GGS/"All I pay my psychiatrist is the cost of feed and hay, and he'll listen to me any day."—"A good rider can hear his horse speak to him. A great rider can hear his horse whisper"[99]—"He knows when you're happy. He knows when you're comfortable. He knows when you're confident. And he always

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Thursday, she recalled, Alex looked at her and said: "You be good, see you tomorrow. I love you." He was found dead in his cage the next morning, Pepperberg said.

97. Fouts, Fouts, and Van Cantfort 1989.

98. Brandt 2004.

99. Williams 2009.

knows when you have carrots."[100]) (CIP/*Louisianian Creole*—"Cutting off a mule's ears won't make him a horse.")

C1i. Communication differences between dogs and wolves raised by humans[101] (BAF/"The Wolf"—Humans afraid of speaking wolf.)

C2. Animals and Language Dialects

C2a. The dialects of whales[102] (TMI/B211.2.7.—Speaking sea-beast.)

C2b. The dialects of birdsong[103] (TMI/B215.1.—Bird language.) [see also, parrot dialect above, "C1e.The parrot Polly who asked for a cracker"]

C2c. Chimpanzee dialects[104] (TMI/B211.2.10.—Speaking monkey.)

C2d. All other mammal dialects[105] (AFS/38—Snake gives man magic charm which allows him to understand all animal languages.) (TMI/B212.0.1.—All kinds of animals understand the language of heaven. B215—Animal languages. The various animals have languages of their own. B217.6.—Animal languages learned by exchanging tongues with helpful dragon. N451.—Secrets overheard from animal conversation.)

C2e. Lone chimp leader communicates via secret drumming code but then never does so again[106]

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100. Young 2009.

101. Virányi et al. 2008.

102. For example, see Deecke, Ford, and Spong 1999.

103. Treisman 1978.

104. Mitani et al. 1992.

105. Conner 1982.

106. Boesch and Boesch-Acherman (2000) celebrate the astonishing intellectual feats of wild chimpanzees (or, at least, the chimpanzees at their study site in the Tai forest). The height of their celebrations has distinctly musical overtones. They report that a chimpanzee named Brutus, "by drumming twice at two different trees" symbolically communicates to his fellow apes a proposal to change their travel

(FTC/"Why Leopard Meets His Enemy Face-to-Face [Benin]"—Cat strikes a gong seven times as a coded message to let to let her kittens know it is safe to lower a rope.) (JSS/XXXVIII.—Monkey plays drum twice [*ribbim-bim-bim, ribbim-bim-bim*] to announce "spider not here" or once [*rib-bim-bim-bim*] to announce "spider is here.") (TMI/B210.2.—Talking animal or object refuses to talk on demand.)
[see also, "G1b.2.a. Chimpanzee drumming"]

C3. Animals and Discourse

C3a. Animals tell stories

C3a.1. Michael the gorilla recounts his mother's murder[107]
(BAF/"The Fable of the Rat-king"—Rat king counselor tells fable to king rat. "Do Not Be Fooled Twice"—Monkey tells fable to shark

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direction, or "by drumming twice at the same tree within two minutes" proposes resting for an hour, and can even combine the two messages "and propose both a change in direction *and* an hours rest" by drumming "once at a first tree and then twice at another tree"—or, alternatively, "drum[ming] twice at a first tree . . . and then once further in the proposed direction" (236 empasis added). Or at least Brutus used to do this. Alas, this noble chimpanzee leader "stopped using this code rather abruptly" in 1984. But this sudden cessation, combined with the fact that it has "only been observed in [the] Tai [forest] chimpanzees" (236), is all the more fascinating because it highlights the "arbitrariness" of the symbolic communication (237).

107. Michael was a companion gorilla to Koko, a gorilla raised by Dr. Penny Patterson and taught American Sign Language who is reported to have learned about twenty words within his first year with The Gorilla Foundation (see Patterson and Linden 1981). Wikipedia (2018) provides an account of an oft-repeated story about Michael's retrieval of a traumatic childhood memory:

> The following is an example of Michael's description of an event that is thought by humans at The Gorilla Foundation to be the death of his mother—killed by bushmeat poachers when he was quite young: "Squash meat gorilla. Mouth tooth. Cry sharp-noise loud. Bad think-trouble look-face. Cut/neck lip (girl) hole.

and then summarizes moral lesson.) (TMI/B122.6.—Bird summarizes history. B131.1.—Bird reveals murder. B134.2.—Dog betrays murder. B151.1.1.0.2.—Horse stops where murder has occurred. B159.4.—Vulture's chicks will not eat dead hero's leg, since they know he has been treacherously murdered.)

C3b. Animals tell jokes

C3b.1. Koko, the punning gorilla[108] (AFS/26—Caterpillar in hiding fools hare and other animals into believing he is bigger than he is. After being fooled all the animals laugh at the joke.) (TMI/A2851.—The four characteristics of wine, peacock:

A video of Michael allegedly signing about this event, can be retrieved by visiting The Gorilla Foundation's 2010 post "Michael's Story."

108. Susan Armstrong-Buck (1989), a professor of philosophy at Humboldt State University, has examined in detail the gorilla's sense of humor:

> Wit or humor has been expressed many times by Koko and Michael. Thus it may be their intelligence which has given gorillas the unfortunate reputation of stupidity or contrariness. For example, when asked to "smile" for the camera, Koko signed "sad frown" . . . Koko's laugh is a low chuckle, like a "suppressed, heaving human laugh" . . . Her humor seems to be incongruity based, like that of small children. Chuckles were evoked, for instance, by a research assistant accidentally sitting down on a sandwich and by another playfully pretending to feed M & M's to a toy alligator. In a striking example combining metaphor and humor, Koko made a joke about being a "sad elephant" because she was reduced to drinking water through a thick rubber straw as a solution to her constant nagging one morning for more drinks of juice.

See also Gamble's (2001) analysis of humor in apes and Patterson (1980).

brilliant colors; ape: jokes; lion: boldness; hog: drunkenness.)

C4. Animal Teachers

C4a. Chimp teaches infant how to crack a nut[109]
(NAAS/"How the Spider Symbol Came to the People"—Spider teaches man how to be patient.)

C4b. Ant teaches friend a new route[110]
(BAF/"The Goat Becomes a Pilgrim"—Hyena poses as guide and tells goat he can show him the road to Mecca.)

C4c. Unending tale types of animal teaching[111]
(BAF/"The Goat Becomes a Pilgrim"—Goat as teacher.) (NAAS/"The Alligator and the Hunter"—Alligator teaches man to hunt.) (NFT/"The Lion and the Goat"—Lion instructs man how to lie down like a lion.)

D. ANIMALS AND PLAY

D1. Animals and Games

D1a. Animals and games with objects

D1a.1. The dog that fetched a stick, played tug-of-war, etc.[112]

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109. Boesch 1991; Musgrave et al. 2016.

110. Leadbeater, Raine, and Chittka:

> Recent research on ants shows that running in tandem might serve the function of teaching naïve ants about the path to a target. Although these new experiments represent perhaps the most highly controlled study of teaching in animals to date, the findings prompt the question of how teaching formally differs from other forms of communication. (2006, R232)

111. Kline (2015) offers a great introduction into the spiraling controversy concerning whether animals teach each other, and if so, what is meant by "teaching."

112. Some writers have assumed that dogs plays games (including tug-o-war) with each other in largely the same manner as they do with humans, and that play with humans is actually just a poor substitute for their own games. For example, Rogerson states that "a dog that lives with another dog will usually play more games with that dog than with its owner" (1992, 55). Rooney, Bradshaw, and Robinson

(ATU/291—Small animal challenges two large animals to a tug-of-war. Arranges it so that they unwittingly pull against each other [or one end of rope is tied to a tree].)

D1a.2. Apes with pogo sticks[113]
(GGS/"Why did the farmer give his cow a pogo stick? *He wanted a milk-shake!*"[114])(IMF/280*F—Ant and fly engage in stone-throwing contest.)

D1a.3. Chimps play blind man's bluff[115]
(BAF/"The Greedy Lion"—Lion drops pot on his head and can't get it out, stumbles around blindly.)

D1a.4. Animals play peek-a-boo

D1a.4.a. Chimpanzees[116]
(TMI/A179.8.—God hides from sun in shadow of a cloud. A734.1.—Sun hides in cave.)

D1a.4.b. Pretty much any other animal you can think of[117]
(GGS/What game do ghosts like to play? *Peek-a-BOO.*[118]) (TMI/F914.2.—Buffalo sucks [in] hero with water it is drinking and throws him up again in game of hide-and-seek.)

(2000), however, caution that the situation may be more complex than this.

113. Köhler ([1917] 1925), see Note 4.

114. Patrick C. 2019.

115. Takeshita and van Hooff describe how several members of a group of captive chimpanzees in the Netherlands played "blindman's bluff: walking with one's face covered by an object" (1996, 166).

116. Cited above, Takeshita and van Hooff also describe several chimpanzees playing a "'Peek-a-boo-like' game: holding out one's hand to another individual while one's face is covered with a towel" (1996, 165).

117. A quick YouTube search will reveal hundreds of examples of the standard canon of animals playing peek-a-boo, including dogs, cats, turtles, bunny rabbits, goats, birds, rats, hamsters, gorillas, zebras, bears, tigers . . .

118. SmileJokes.com 2013.

D1a.5. Apes invent game with piles of leaves[119]
(TMI/B251.2.2.—Fish perform races as welcome to saint.)

D1a.6. Vultures playing stick keep-away with alligators[120]
(TMI/F267.—Fairies attend games.)

D1a.7. The banana cannon[121]
(TMI/B109.2.—Centipede plays at night with pearl. B765.12.—Venomous snakes play with precious stones.)

D1b. Animals play chase

D1b.1. The chimps play chase-and-tickle[122]
(FTM/"The Fox and the Partridge"—Partridge plays chase with young girls.)

D1c. Animal mind games

D1c.1. Orangutan charades[123]

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119. Nishida and Wallauer:
Play in nonhuman animals has generally been viewed as being uniform among study sites. No studies have examined whether there are local variations in play. In this work we report an apparently locality-specific form of play that is basically solo locomotor play, but also has aspects of object play and social play. We describe this unusual "leaf-pile pulling" (LPL) pattern based on video footage of the chimpanzees of Mahale, Tanzania. Typically, when a party of chimpanzees moves in a procession down a slope in the dry season, a youngster will turn around and walk backward while raking many dry leaves with both hands. This activity accumulates many dry leaves while producing a lot of sound. After the player walks 1–15 m, he/she either turns around and walks forward or moves in a somersaulting fashion. The performer usually faces an individual that is immediately following him/her in the procession. The age of the performers ranges from 2 to 22 years, but 3–10 years are most typical" (2003, 167)

120. Davis 2015. See also, Davis 2013.

121. Mechling 1989.

122. Flack, Jeannotte, and de Waal 2004.

123. Cartmill and Byrne 2007.

(AGFT/"The Baboons and the Village Women"—Baboons resolve to learn acrobatic games to entertain villagers in order to gain food.)

D1c.2. Experimenters teach chimps how to play rock-paper-scissors[124]
(AGFT/"The Great Famine and the Law of the Jungle"—Hare convinces lion to play hide-and-seek among the rocks. Lion gets trapped. Hare eats him.)

D1c.3. Chicken tic-tac-toe and the boy at the county fair[125]
(FOJ/"The Rabbit and the Bear"—Rabbit proposes that he and bear play a

124. Gao et al. 2018.

125. Using basic operant learning principles, chickens have been playing tic-tac-toe at country fairs for many years. Their behavior is controlled by training them (using basic Skinnerian operant conditioning) to peck at lights (invisible to their human competitor) that are projected onto the X's and O's. Sometime during the late 1990s, the attraction was integrated into modern casinos. An article in the *New York Times* gives some context:

> "People do love it," said Lisa Mizrachi, the advertising supervisor at the Mardi Gras Casino in Hallandale Beach, Fla., where people lined up in 2009 and 2010 for a chance to compete against Mardi G. the chicken and win $50 . . . The tick-tack-toe chickens, Mr. Bailey said from his lakeside home in Hot Springs, Ark., are 'not mental giants.' "But they are certainly a lot brighter than most people will give them credit for," he added. Mr. Boger, a former bullfighter and rodeo clown, said he and his wife, Connie, could make about $4,000 a week leasing tick-tack-toe-playing chickens to casinos. Each tick-tack-toe unit provided by Mr. Boger comes with 15 chickens. The chickens are rotated when one gets full, bored or tired, a nod to animal labor laws. A chicken wrangler serves as their caretaker. The game is now computerized, and building a new unit, Mr. Boger said, can cost up to $20,000. Mr. Boger's latest enterprise is a chicken that deals blackjack. "I haven't gotten that far with it," he said. (Gregory 2012)

game by tying their hands and feet together and rolling down mountain. Bear agrees it would be fun. They do it. Not fun at all.)

D1c.4. Chimps beat humans at memory games[126]
(SFFT/"The Eagle and the Wren"—Eagle and wren hold competition to see who can fly highest. Wren beats eagle by riding on eagle's back.) (TMI/B565.—Parrot gives advice to queen playing chess, and she always wins.)

D1d. Strategy games

D1d.1. Chimps play ultimatum and dictator games[127]
(TMI/B298.1.—Monkey plays chess.)

D1d.2. Chimps are unaware of cheating during ultimatum games[128]
(ATU/217—A man has a cat trained to hold up lighted candles on its head. The king has a mouse let loose. The cat drops the candle and chases the mouse. Often used as a method of cheating in a game.)

D1d.3. Ravens do not understand tit-for-tat[129]
(PER/323—A Crow was caught but released by Apollo on promise of an offering. The offering was never

126. Humphrey 2012.

127. Proctor et al. 2013; Henrich and Silk 2013.

128. Kaiser et al. 2012.

129. Fraiser and Bugnyar:

> We found support for long-term, but not short-term, reciprocation of agonistic support [in a group of 13 captive ravens]. Ravens were more likely to support individuals who preened them, kin and dominant group members. These results suggest that ravens do not reciprocate on a calculated tit-for-tat basis, but aid individuals from whom reciprocated support would be most useful and those with whom they share a good relationship. (2012, 171)

made so when the Crow is again captured no other god helped.)

D1e. Gambling animals

D1e.1. Gambling monkeys like big bets[130] (ATU/7—The bear and the fox wager as to which can name three trees first. The bear names different varieties of the same tree. The fox wins the wager.)

D1e.2. Primate gambling task[131] (GGS/Why did the lion lose at poker? *Because he was playing with a bunch of cheetahs!*[132])

D1e.3 Hot-hand bias in rhesus monkeys[133] (NFT/"The Hunter and the Deer"—Hunter finds deer-woman and brings her home as his second wife even though his first wife is wonderful. First wife discovers true origins of deer-woman and hunter loses both.)

D2. Animals and Alcohol and Drugs

D2a. Animal intoxication

D2a.1. The drunken elephants[134] (ATU/100—The Wolf as the Dog's Guest Sings. The wolf as the dog's guest sings. Has drunk too much. Sings in spite of the dog's objections. Is killed.) (BAF/"The Animals at the Market Place"—Animals drink

130. Chen and Stuphorn 2018.

131. Proctor et al. 2014.

132. Worstjokesever.com 2014.

133. Blanchard, Wilke, and Hayden 2014.

134. Siegel and Brodie 1984. A couple of pop cultural notes: 1) An alcoholic character in Jack London's 1913 novel, *John Barleycorn,* hallucinates "blue mice and pink elephants" (9), and 2) Dumbo, the adorable flying elephant in Disney's 1941 animated film, takes a drink of water from a bucket spiked with champagne and begins hallucinating in a singing and dancing musical episode, "Pink Elephants on Parade."

beer and smoke.)(GGS/"So drunk one is seeing pink elephants."[135])

D2a.2. Birds slur their songs on alcohol[136]
(BAF/"The Animals at the Market Place"—Buffalo has hangover from drinking too much.)(GGS/"When the cock is drunk, he forgets about the hawk."[137])

D2a.3. Bats have high tolerance for alcoholic fruit[138]
(JSS/XIX.—Spider gets cock drunk with rum-soaked corn.) (TMI/B299.3.—Animals discover liquor and get intoxicated.)

D2a.4. Vervet monkeys have been drinking for thirty-five years[139]
(MRT/"The Grateful Minnow"—Fisherman spills some liquor in bucket of bait minnows. Drunk minnow is so grateful that when he is put on line he swims straight to a big perch and bites him on back allowing fisherman to reel in perch.) (TMI/B294.2.2.—Monkey buys liquor. B182.1.1.—Magic dog vomits any liquor required of him.)

D2b. Animal drug use

D2b.1. Elephants on LSD[140]

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135. Brown 2014.

136. Birds are widely reported to eat fermented berries and become intoxicated. This may or may not be the origin of the "birds of a feather" early American variant "Where birds of every name and feather, Flock, and at times *get drunk* together" reported by Whiting (1977, 32). More recently, Olson et al. (2014) have definitively established that the birds slur their singing when drunk.

137. Ashanti Proverb 2015.

138. Orbach et al. 2010.

139. Juarez et al. 1993.

140. In a textbook example of a mistake in allometry (the study of size and scaling), West, Pierce, and Thomas (1962) attempted to study the effects of LSD on elephant behavior. They calculated a dose of 287 mg of LSD by scaling up from

(BAF/"Who Will Bell the Leopard?"—Animal sorcerer pretends to prepare medicine that will incapacitate leopard.)

D2b.2. Octopuses on ecstasy[141]
(BAF/"The Well"—Jackal tricks rock rabbit into drink fermented honey and steals water.)

D3. Animals and Playful Sexuality

D3a. Chimps make sex toys[142]
(TMI/B754.0—Unusual sexual union of animals. B754.2—Elephants have sexual desire only after eating mandrakes.)

D4. Animals of Different Species Play Together (variants: dogs play with humans,[143] cats play

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the dosage that was known to send cats into a rage. However, they incorrectly used total body size as the scaling dimension. Within seconds, the elephant went into a rage and with five minutes it collapsed, defecated upon itself, and died. The proper scaling factor should have been *brain size*. The error was the equivalent of giving a human one-thousand-five-hundred hits of acid at once. Fortunately (?), twenty years later, Siegel (1984) repeated the experiment on two Asian elephants using a proper dosage scaling. He discovered that the elephants "survived dosages of LSD (.003–.10 mg/kg) and exhibited changes in the frequency and/or duration of several behaviors as scored according to a quantitative observational system" (53).

141. Eric Edsinger and Gül Dölen recently injected MDMA (also known as "ecstasy" or "Molly") into several octopuses to determine if it would affect their attraction to other members of their species. They think it did:

> Here we provide evidence that, as in humans, the phenethylamine (+/-)-3,4-methylendioxymethamphetamine (MDMA) enhances acute prosocial behaviors in *Octopus bimaculoides*. . . . These data provide evidence that the neural mechanisms subserving social behaviors exist in *O. bimaculoides* and indicate that the role of serotonergic neurotransmission in regulating social behaviors is evolutionarily conserved. (2018, 3136)

Despite the use of a toy octopus as a control, I remain dubious.

142. McGrew 2010; Tierney 2010.

143. Rooney, Bradshaw, and Robinson 2001.

with humans,[144] humans play with [insert any species],[145] colobus monkeys play with vervet monkeys,[146] chimps play with baboons,[147] rats play with mice,[148] spotted dolphins play with bottlenose dolphins.[149])

(BAF/"The Snake and the Hog"—Snake and hog agree to be friends and play together.) (JSS/XXV.—Spider and Monkey are drinking buddies.)(CIP/*Arabian*—"He who plays with a cat must bear its scratches.")(NFT/"The Tortoise and the Boar"—Tortoise and boar are bosom friends.)

[See also: "E7. Animals of different species who befriend each other"]

D5. Pretend Play in Apes[150]

(BAF/"The Goat Becomes a Pilgrim"—Goat pretends to write with a pen. "Ingratitude, or the Hippopotamus, the Hare and the Hyena"—Hippopotamus pretends to be dead. "Whose is the Child?"—King pretends to kill baby chick.) (FOJ/"The Hare, the Badger, Monkey and Otter"—Hare pretends to be lame to distract man while other animals steal his goods. "The Quail and the Badger"—Quail

144. Mertens and Turner 1988.

145. Herzog 2010.

146. Rose 1977.

147. van Lawick-Goodall 1968.

148. Poole and Fish (1975):

> The playful behaviour of laboratory rats (*Rattus norvegicus*) was investigated in litters of five individuals with the mother present; parallel observations were made on mice (*Mus musculus*). Seven mixed litters containing four young rats and a young mouse fostered at birth were also observed. Solitary play was recorded in both species and took a similar form but social play was only observed in rats. In rats, solitary play frequently preceeded social play . . . Young mice did not respond playfully to social play from a rat litter mate; mice were less attractive to rats as playmates in comparison with fellow rats. (61)

149. Herzing and Johnson 1997.

150. Hayes 1951; Gómez and Martín-Andrade 2005.

convinces badger to pretend to be a roadside stake. Badger does so. Quail perches on top of him.) (IMF/66B—Rabbit finds sham-dead coyote, says coyotes pass wind when dead. He does and rabbit knows that he is alive.)

E. ANIMALS AND SOCIAL SMARTS

E1. Animals and Empathy

E1a. Empathic apes[151]

(IMF/207*D—Pig is sorry for the ass, who is sore and tired from work. Pig is well-fed but ass reminds him that master's son is to be married within the year. Pig worries, becomes thin, but he is eaten at the wedding feast anyway.) (TMI/B292.5.—Bird sings to console man.)

E1b. Altruistic primates[152]

(NFT/"The Lion and the Goat"—Goat unlocks cage for trapped lion.)(NAAS/"Eagle Boy"—Eagle stays in captivity because he loves boy.)

E1c. Non-altruistic primates[153]

(BAF/"The Girl and the Crocodile"—Ungrateful crocodile. "Ingratitude, or the Hippopotamus, the Hare and the Hyena"—Ungrateful hyena bites hippopotamus.)

E1d. Altruistic bees[154]

(AGFT/"The Woman and the Bird"—Bird takes pity on woman and returns her baby.)

E1e. River otter shows compassion[155]

(TMI/B299.5.2.—Animal fasts to express sympathy.)

E1f. Dog tries to save fish[156]

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151. Palagi and Norscia 2013; O'Connell 1995.

152. Warneken and Tomasello 2006.

153. Silk et al. 2005; Vonk et al. 2008; Skerry, Sheskin, and Santos 2011.

154. Rueppell, Hayworth, and Ross 2010; Naeger et al. 2013.

155. Fashing and Nguyen 2011.

156. A YouTube video depicting a dog using vigorous wipes of its nose to splash water off a wet concrete deck onto several dead fish has been posted and reposted many times, stirring an equally vigorous debate about the dog's motives. One of these is entitled "Dog Tries to Save Fish Out of Water"

(NoypiStuffVideos 2014) and received 443,345 views with 749 comments. Here is a sampling of some (unedited) recent comments: "I have more faith in this dog than humanity" (John Woo); "wow just sit back a laugh while the poor dog is scraping his nose raw to save this fishes life. people are really daft." (the woods); "Oh my god 00:27 it nudges it to see if it's alive yet, this is heartbreaking ;-;" (Daria); "god bless this dog" (•Fetch•); "What did humans do to deserve dogs?"; "Do all the people that THINK this dog is trying to bury or hide 'food,' ah no. This dog knows exactly what these fish need to survive and he's doing his best to help them. You can just see it in the way he looks at them and even noses one to see if it's OK. I just can't buy the bury or hide his food, not THIS dog and not this video! He may have been trained to do this, I don't know, but it's still amazing and very touching." (Rod Buchanan); "Dogs are angels while humans continue to exploit everything they can get their hands on :(" (rando); "this video proves dogs are better than cats" (GARTV101); "Wow . . . Most people here are so completley clueless.. This dog isn't trying to save the fish, he's trying to bury them. 'Dogs are so thoughtful' and comments like that are so incredibly stupid. It's a common fact that dogs are caring, but they're also hunters, carnivores and gatherers. The dog has NO concern for the welfare of these fish, he's merely trying to bury them to be eaten later. Problem s becuase he's domesticated his instincts are intact, but his hunting skills arn't very acute. So he's using whatever he can to bur the fish" (Don't Watch This).

It should be noted that Elizabeth Price (2014) has posted a video entitled "Dog Tries to Save Fish- Proven Wrong" in which a dog eating from its bowl drops a piece of food on the floor. After smelling it intently, the dog repeatedly executes the exact same wiping motions against the floor toward the food as the dog "attempting to save" the fish. Although it has so far received only 14,963 views and a paltry fifty-four comments, the recent comments were intriguing: "So? People who pick up a wounded person use the same movements as someone who picks up a sack of cement. I guess paramedics are really only trying to pick up sacks of cement, then." (deneil topan); "There are hundreds of videos showing animals trying to save other animals lives from bears saving crows to cats savings puppies and on and on. Whomever posted this is dumb as hell and has no soul :/" (fuzzynubbins); "7 people got their delusions broken." (Militant Pacifist); "lmao my shiba always does this" (Parisa); "Does not prove anything" (TylerTheGamer); "Just goes to show that the dog in the 'Dog saves fish' video was

(TMI/B299.5.1.—Animal mutilates self to express sympathy.)

E1g. Dog rescues owner[157]
(BAF/"Njo the Leopard and Mbomoka the Tortoise"—Baboon has sympathy for trapped tortoise; helps him.)

E1h. Rats rescue friends[158]
(BAF/"The Wild Dog and the Stork"—Stork helps wild dog remove bone from throat.)

E1i. Rats are not really rescuing friends[159]
(ATU/545—The Cat as Helper.)

E1j. Ants bite string snare, liberate trapped friends[160]
(ATU/75—The mouse gnaws the net and liberates the captured bear [fox, lion].)
[see also, "F8b. Noble ant faces death alone"]

E1k. Animals helping members of other species[161]

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actually just acting out of pure instinct to bury food with whatever is around—dirt, air, water, etc . . . The motions are the same, as are the reasons behind them. Heck, the dog in this video even seems to be the same breed (Shiba Inu?) There are many folks out there who try hard to hold onto the delusion that the dog in that viral video was trying to 'rescue' the fish" (vanizorc).

157. A quick Google search for "dog rescues owner" revealed 27,900 hits on September 21, 2018. A review revealed personal stories including (among others) dogs rescuing owners from innumerable situations: fires, lakes, rivers, being stuck without their phones, mud slicks, falling from cliffs, being stranded on toilet without toilet paper, etc.

158. Bartal, Decety, and Mason 2011.

159. Silberberg et al. 2014.

160. Taylor et al. 2013.

161. Consult YouTube for video evidence involving video compilations members of one species helping members of another species. See for, example, "Animal Heroes 2017—Amazing Animals Helping and Rescuing Other Animals—Compilation 2017" (ForfunTV) with 1,404,118 current views. My personal favorite moment is at 1:09 during "Amazing . . when Animals help each other" (Edogawa 2016) wherein the captive bear "helps" the wounded bird out its moat to the bagpipes of "Amazing Grace." (NB: Ask Doctor Folklomindo about the

(ATU/239—The Crow Helps the Deer Escape from the Snare.) (JSS/VI.—Blackbird leads army of animals to save spider from butchers.)(TMI/B540.1—Birds throw some of their feathers to the hero in danger and he flies off. B381.1.—Wolf fetches a man to remove thorn from his children's paws.)

E2. Mind-Reading Animals I. The Perceptions of Others

E2a. Animals and the eyes of others[162] (BAF/"The Animals at the Market Place"—Lion claims to be able to command his wife by simply looking at her.)(FTM/"The King of the Birds"—Owl appointed king because his eyes look wise.)(TMI/1006.—Casting eyes.) (ATU/1685.—Ordered to cast eyes on this or that, Ogre kills animals and throws their eyes at the object.)

E2b. Animal follows human gaze [variants: apes, monkeys, horses, goats, dogs, tortoise][163] (NFT/"The Lion, the Tortoise, and the Boar"—Lion warns tortoise and boar he does not like to be looked at in the face.)

E2c. Animal knows what others can see (variants: monkeys, ravens, apes, cats, dogs and all the other usual suspects)[164]

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history of the cultural appropriation of "Amazing Grace" as a device for stirring uplifting sentiments.)

162. Biologists have long studied what happens to an animal when a pair of eyes appear in their visual field. For example, Gallup et al. (1971) demonstrated that chickens stay hypnotized longer when a pair of glass eyes mounted on sticks loomed over the chicken that was being held down. More recently, comparative psychologists have investigated whether animals know that the eyes are a portal to an unobservable world of the mind.

163. Since the first formal demonstration of gaze-following by chimpanzees in the mid-1990s, the animal cognition literature in this area has exploded. (A few illustrative references: Povinelli and Eddy 1997; Micheletta and Waller 2012; Nawroth, von Borell, and Langbein 2015; Proops and McComb 2010; Wilkinson et al. 2010.)

164. Again, a voluminous literature has been created since the mid-1990s. (For example: Bräuer, Call, and Tomasello 2007; Flombaum and Santos 2005.)

(AFS/21—Young Sun-God laments to spider that he wishes his father the Sky-God had seen him catch a sheep so he would know how well or poorly he had performed.) (ATU/61—The Fox Persuades the Cock to Crow with Closed Eyes. Captures him.) (BAF/"The Hare and the Lion"—Hare scratches out lion cubs' eyes so they will not be able to hunt when they grow up.) (JSS/IX.—Spider tricks Death and blinds him with temper lime and escapes. XXXVII.—Cow keeps her newborn son out of sight in a stone hole because bull wants him killed.) (IMF/74*G—Coyote sees opossum pretend to rub prickly pear over his eyes. Coyote picks a prickly pear, rubs it over his eyes and cannot see. Buzzard helps him pull out spines and restore sight of coyote. Coyote pursues opossum.) (NAAS/"How the Spider Symbol Came to the People"—Spider chastises man for running while looking at the ground as if he were blind.)

E2d. Chimpanzees and the evil eye[165]
(TMI/F989.2.—Bird's red eye cooks meat, looks so intently at it that it cooks.)

E2e. Animals know/do not know that others hear

E2e.1. Chimpanzees know what others hear[166]
(NAAS/"Eagle Boy"—Eagles instructs boy to tie bells to his feet so that when they fly away the villagers will know.)

E2e.2. Chimpanzees do NOT know what others hear[167]
(ADLG/"If the crow could have only fed in silence, he would had had more to eat, and much less contention and envy.")

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165. Kaminiski, Call, and Tomasello (2008) attempted to test something called the "evil-eye hypothesis" to explain why subordinate chimpanzees avoid food that a dominant animal has been looking at.

166. Melis, Call, and Tomasello 2006.

167. Bräuer, Call, and Tomasello 2008a.

E2e.3. Dogs do know what others hear[168]
(BAF/"The Well"—Jackal tells hyena he will tell his story but *only* if the hyena *will listen*.)

E2e.4. Scrub jays know when to be "quiet as a mouse"[169]
(ATU/238—The Keen Sight of the Dove and the Keen Hearing of the Frog. They boast to each other.) (JSS/VI.—Blackbird and spider in hiding. Blackbird tells spider to be quiet otherwise men will discover and shoot them.)

E2e.5. And rhesus monkeys as well.[170]
(FTM/"The Sparrow's Eggs"—Dying bull promises his ears will become magic stone that boy can use to hear anything that happens anywhere in the world.)

E2f. Ravens specialize in eyeing spying ravens[171]
(BAF/"The Leopard and the Marten Kabundi"—Squirrel sees eyeball of leopard spying through hole in a sheet and flees before getting eaten. "The Owl"—Old lady changed into an owl because she spies on people.)

E2g. Dolphins are smart too[172]
(FTM/"The Magic Eyes"—Water maidens bring boy magic eyes so he can see, then take them away.)

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168. Kundey et al. 2010.

169. Stulp et al. (2009): "[We conclude] that food-caching western scrub-jays conceal auditory information if—and only if—the competitors can hear, but cannot see the cachers. In short, western scrub-jays know when to be as quiet as a mouse."

170. Santos, Nissen, and Ferrugia 2006.

171. Bugnyar, Reber, and Buckner 2016.

172. Xitco, Gory, and Kuczaj 2004.

[FIRST SPECIAL NOTE TO DOCTOR FOLKLOMINDO, OR SNDF-1: *As per our preliminary discussions, I have elected not to build out the next section with the detail it so richly deserves. Frankly, there has been so much work on this topic over the past forty years—hundreds and hundreds of studies cross cutting many of the other major sections of this index—that it may prove fruitful, at some point in the near future, to hire a team of five to ten post-docs to generate a separate FOMANCOG limited to purported "mind-reading" capacities in animals.*]

E3. Mindreading Animals II. Thinking about Thinking (variants: apes, monkeys, dogs, elephants . . .)[173]

(AFS/21—How the Spider Read the Sky-God's Thoughts.)(BAF/ "The Lion, the Hyena and the Jackal"—Lion ponders the source of jackal's knowledge.)(AGFT/"The Great Famine and the Law of the Jungle"—On a forced march from the jungle, exhausted vegetarian animals lie and say they are stopping to think. Lion asks what they are thinking about. Animals cannot give an answer so lion knows they were not really thinking about anything. Meat eaters eat them. Exhausted hare stops repeatedly to rest but each time tricks lion into believing he is thinking deep thoughts. Lion believes him and spares his life.)

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173. Since the late 1970s, the question of whether animals are "mind readers" has become an obsession of sorts in both comparative psychology and philosophy of mind (for the original statement of the problem, see Premack and Woodruff 1978). Routinely, the question is asked as to whether a particular species can "read the mind" of another conspecific, or a human (for a random example that recently caught my attention, see Udell et al. 2011). Furthermore, the experimental literature on this topic cuts across almost every other category in this catalog. Lurz (2011) provides one of many overviews of this topic.

E4. Animals distinguish between accidental and intentional actions[174]

(BAF/"The Lizard and the Chain of Events"—Ant seeks cause of malady but all animals explain away their role as being caused by something else.)(NFT/"The Tortoise and the Forbidden Porridge"—Tortoise tells the Diviner that he accidentally tripped over a stump and spilled the porridge on himself, when he really ate it on purpose.)

E5. Animals and Pointing

E5a. Chimpanzees (learn to) point to deceive human dressed up as a bandit[175]

(ATU/161—Peasant Betrays Fox by Pointing. The peasant has hidden the fox in a basket and promised not to tell. When the hunters come, he says, "The fox just went over the hill," but points to the basket.)

E5b. Animals understand (and don't understand) pointing (variants: apes, monkeys, dolphins, crows, ravens, dogs, horses, etc., etc.)[176]

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174. Yup, the old accidental-intentional distinction—a particularly thorny topic, even among humans. See Povinelli et al. 1998; Call and Tomasello 1998; Call et al. 2004.

175. Woodruff and Premack 1979.

176. For an introduction to the topic of whether animals comprehend the meaning of the pointing gesture, I recommend the review by Ádam Miklósi and Krisztina Soproni (2006). I feel badly for just gesturing at a review paper, but the research literature concerning whether (and which) animals can (and do) respond to (in various ways) the human (or human-like) pointing gesture is so vast, so complicated, and oh so growing. But because that review is now over a decade old, I will also point toward a slightly newer study with dolphins (Pack and Herman 2006) and another (Udell, Dorey, and Wynne 2008) which shows that (surprisingly?) wolves outperform dogs on comprehending what the pointing gesture means—or another one which shows that dogs but not chimpanzees understand the pointing gesture (Kirchhofe et al. 2012). A completely separate topic is whether animals actually produce the pointing gestures on their own. For claims that they do, I recommend Leavens, Hopkins, and Bard (1996), Veà and Sabater-Pi (1998), and Pika and Mitani (2006). Curiously, in his investigation of possible

(AFS/40—Spider recognizes he has been pointed at while hiding in tree.) (BAF/"How Mboloko the Dwarf Deer, Saved his Friend's Life"—Rat points at the cock. "The Lion, the Jackal and the Hyena"—Jackal points to hyena's distended stomach. "The Animals at the Market Place"—Elephant uses his trunk to point out things he wants his wife to do.) (FTC/"The Cat, the Dog, and Death [Haiti]"—Dog tries to get his nose to stop pointing at bone. His nose wins out.) (MRT/"The Pointer"—Hunter dog trained to point at birds points to man in city. Owner thinks he's mixed up until the man says his name is "Bob White.") (NAAS/"The Woman Who Married a Frog—Frog points to lake.)

E5c. Animals understand how to point with gaze[177]

(AGFT/"The Man and the Dove"—Dying dove uses her glances to communicate to man where snake is hiding.)

E6. Spiteful, Jealous, and Guilty Animals

E6a. Chimps are vengeful but not spiteful[178]

(AFS/27—Gazelle makes drum to secretly summon the animals to exact revenge on the leopard for having killed the Antelope.) (ATU/248—A man runs over the dog, friend of the sparrow. The sparrow takes vengeance. The man loses his horse, his property, and finally his life.) (BAF/"Why the Heron has a Bent Neck"—Jackal exacts revenge against heron. "The Elephant and the Hare"—Leopard attack of revenge against the lizards.) (PER/113—A Thunny and dolphin wash ashore. The Thunny was pleased to see the dolphin die first. 216—A Wasp tormented a Snake close to death. The Snake decided to put his

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pointing by magpies, Kaplan (2011) argues that pointing does not require having hands and arms. In that there is some confusion here, a critical, theoretical paper by some dear colleagues of mine, may be of help in insolating the underlying theoretical issues at stake (see Povinelli, Bering, and Giambrone 2003).

177. Land (1999) offers a little physiology to this debate.

178. Jensen, Call, and Tomasello 2007; Jensen et al. 2006.

head under a wagon wheel in hopes to take the Wasp with him in death. 494—A Panther fell into a well. Some fed him and some pelted him. Overnight he recovered strength and leaped out of the well. He killed those who abused him. 702—A dog sleeping on hay would not let other animals eat from the hay.) (RFT/"Prince Ivan, the Firebird and the Gray Wolf"—Gray wolf kills Prince's horse just to fulfill prophecy.)

E6b. The jealous animal

E6b.1. Dog[179]
(TMI/W181.1.—Sheep jealous of dog because he does nothing.)

E6b.2. Cat[180]
(BAF/"Do Not Be Fooled Twice"—Shark's wife jealous of his friendship with monkey.)

E6b.3. Guinea pig[181]
(BAF/"The Elephant and the Hare"—Hare jealous of elephant's garden.)

E6b.4. Horse[182]
(TMI/L452.2.—Ass jealous of war horse until he sees him wounded.)

E6b.5. Bird[183]
(TMI/W181.5.—Raven jealous of partridge's way of flying.)

E6b.6. Rat[184]
(BAF/"The Fable of the Frog and the Gazelle"—Gazelle jealous that frog has children.)

E6b.7. Rabbit[185]
(TMI/W181.4.—Jealous fox betrays wolf to peasant and then appropriates wolf's cave and food.)

179. Harris and Prouvost 2014.
180. Morris, Doe, and Godsell 2008.
181. Morris, Doe, and Godsell 2008.
182. Morris, Doe, and Godsell 2008.
183. Morris, Doe, and Godsell 2008.
184. Morris, Doe, and Godsell 2008.
185. Morris, Doe, and Godsell 2008.

E6b.8. Just about all pets[186]
(JSS/XXIX.—Dog jealous because cat has all the gals fawning over him.)

E6c. That guilty look on your dog's face is (not) real[187]

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186. Morris, Doe, and Godsell 2008.

187. Professor Alexandra Horowitz of Barnard College has been a pioneer on this important topic. An abstract of one of her recent studies pretty much sums up one of the major concerns of the FOMANCOG:

> Anthropomorphisms are regularly used by owners in describing their dogs. Of interest is whether attributions of understanding and emotions to dogs are sound, or are unwarranted applications of human psychological terms to non-humans. One attribution commonly made to dogs is that the "guilty look" shows that dogs feel guilt at doing a disallowed action. In the current study, this anthropomorphism is empirically tested. The behaviours of 14 domestic dogs (*Canis familiaris*) were videotaped over a series of trials and analyzed for elements that correspond to an owner-identified "guilty look." Trials varied the opportunity for dogs to disobey an owner's command not to eat a desirable treat while the owner was out of the room, and varied the owners' knowledge of what their dogs did in their absence. The results revealed no difference in behaviours associated with the guilty look. By contrast, more such behaviours were seen in trials when owners scolded their dogs. The effect of scolding was more pronounced when the dogs were obedient, not disobedient. These results indicate that a better description of the so-called guilty look is that it is a response to owner cues, rather than that it shows an appreciation of a misdeed. (2009, 447)

Ostojić, Tkalčić, and Clayton recently report that they replicated important aspects of those findings:

> We manipulated whether or not dogs ate a "forbidden" food item and whether or not the food was visible upon the owners' return. Based on their dogs' greeting behaviour, owners stated that their dog had eaten the food no more than expected by chance. In addition, dogs' greeting behaviours were not affected by their own action or the presence or absence of the food. Thus, our findings do not support the hypothesis that

(JSS/XVII.—Spider is ashamed of deception of the king. Sulks away and hides.) (TMI/A737.8.1.—Sun hides face in shame: eclipse.)

E7. Fairness in Animals (a.k.a. "Inequity Aversion") and Other Morals[188]

E7a. Monkeys reject unequal pay for equal work[189]
(ATU/9—The unjust partner. In the field and in the stable. The bear works: the idle fox cheats the bear.)

E7b. Apes are okay with unequal pay[190]
(ATU/9B—In the Division of the Crop the Fox Takes the Corn. While sharing the corn they planted together, the fox takes the corn and the bear the chaff. The fox claims the difference in sound is because his share got moist.)

E7c. Dogs are not okay with unequal pay[191]
(AFS/23—Wolf upset at fox because his kill is always better. They agree to jointly kill animals so it will be fair.) (PER/356—The Sheep and the Dog. Sheep complained they had to pay with wool for their good life but the Dog did not have to pay. Dog pointed out without him Sheep would likely be dead.)

E7d. Long-tailed macaques are only not okay with unequal pay when workload is moderate[192]
(PER/092—The Two Dogs. A Hound berated a House Dog for getting a large share of the kill on the Master's return. The House Dog replied it was not his fault; talk to the Master.)

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dogs show the "guilty look" in the absence of a concurrent negative reaction by their owners. (2015, 97)

188. de Waal 2006.

189. Brosnan and de Waal 2003.

190. Bräuer, Call, and Tomasello 2008b.

191. Horowitz 2012.

192. Massen et al. 2012.

E7e. Crows and ravens do not like giving gifts to partners who are not working hard enough[193]
(PER/130—Belly had all the food and the rest of the body rebelled and refused to work to get more. They soon relented as the whole body started to starve.)

E7f. Rats want fairness too[194]
(ATU/15—The fox [the hen] pretends that he has been invited to be godfather and steals the butter stored by him and the bear (the cock) for the winter. He smears butter on the mouth (tail) of the sleeping bear.)

E7g. Giving what you get and paying positive and negative events forward (variants: capuchin monkeys, rats . . .)[195]
(ATU/554—The Grateful Animals.) (FOB/"The Traveller and the Goldsmith"—Man lowers rope into a pit. Monkey, snake, and tiger thank man for helping them escape and help him later.)(FTM/"Grateful Animals"—Man offers water to snake, monkey, and tiger and they later repay the kind deeds.)(TMI/J1612—The lazy ass repaid in kind.)(NAAS/"The Rabbit Dance"—Rabbits teach humans a song and dance to show their gratitude for relying on them for food and clothing.)
[see also, "E10i. Gratitude in animals"]

E7h. Bartering in animals (meat for sex, grooming for alliances, etc.) (variants: chimpanzees, ravens, penguins . . .)[196]
(BAF/"The Animals at the Market Place"—Animals set up a bartering market.) (FTM/"The Frog and the Jackal"—Jackal barters wood for bread from boy.)

E7i. General morality in animals[197]
(BAF/"The Elephant and the Hare"—Grand council of assembled animals rules that

193. Wascher and Bugnyar 2013.

194. Oberliessen et al. 2016.

195. Leimgruber et al. 2014; Rutte and Taborsky 2008.

196. Gomes and Boesch 2009; Schino 2007.

197. Flack and de Waal 2000; Sheskin and Santos 2012.

leopard's behavior has broken the moral code of the animals.)

E8. Selfish Apes[198]
(PER/149——Lion, Ass, and Fox. A lion hunted with others. When it came time to divide the spoils the lion killed those who attempted to divide things evenly. The fox learned and lived. 348——A new wolf ruler was suggesting everyone share everything when an ass made it clear he should also share the sheep he had hid away. Ooops!)

E9. When Animals Console Each Other

E9a. Raven bystanders console victims[199]
(BAF/"The Fly, or the Power of a Name"——Tree mourns with fly over loss of her husband.)

E9b. Monkey consoles friends[200]
(BAF/"The Partridge"——Ants show sympathy for partridge whose eggs were eaten by snake.)

E9c. Chimpanzee consoles some friends more than others[201]
(BAF/"Lion and Man"——Lion consoles donkey, horse, camel, and mule who are overworked by man.)

E9d. Rat consoles stressed out friend[202]
(BAF/"The Hedgehog, the Camel and the Lion"——Lion consoles sad hedgehog.) (FTM/"The Golden Peacock"——Antelope, tiger, elephant console weeping boy.)

E9e. Bystander Asian elephants reassure others in distress[203]
(FOJ/"The Greedy Hawk"——Bear helps eagle in distress.)

E10. Animals and Cooperation

E10a. Monkeys cooperate without knowing it[204]

198. Brosnan et al. 2009.
199. Fraser and Bugnyar 2010.
200. Palagi et al. 2014.
201. Webb et al. 2017.
202. Burkett et al. 2016.
203. Plotnik and de Waal 2014.
204. Visalberghi, Quarantotti, and Tranchida 2000.

(TMI/B294.6.—Rabbit and elephant partners on trading expedition.)

E10b. The bonobo who out-cooperated the chimpanzee[205]
(BAF/"The Well"—During a severe drought many animals cooperate as never before and dig a well in record time. Only the jackal does not cooperate.)

E10c. Chimp negotiators[206]
(BAF/"The Drought"—Animals negotiate a truce. "The Lion and the Hyena"—Lion and hyena go to council for arbitration. "The Son of a Rat"—Rat negotiates with hunter.) (NFT/"The Lion, the Tortoise, and the Boar"—Lion, tortoise, and boar negotiate peace among their groups.)

E10d. Chimps take turns[207]
(AGFT/"The Story of Hyena and Squirrel"—Hyena and squirrel live together and take turns doing domestic chores.)

E10e. Animals recognize competence

E10e.1. Elephants lend a helping trunk[208]
(TMI/B151.1.4.—Elephant determines road to be taken. B443.3.—Helpful elephant. J1024.1.—Captured elephants pull all at once and escape from net.)

E10e.2. Chimpanzees recruit the best collaborators[209]
(SFFT/"The Fox and the Wrens"—Fox cannot tell which wren is the father. Ultimately recognizes him because he is more competent than the other at threshing in a barn.)

205. Hare et al. 2007.

206. Melis, Hare, and Tomasello 2009.

207. Yamamoto and Tanaka 2009.

208. Plotnik et al. 2011.

209. Melis, Hare, and Tomasello 2006.

E10f. Chimps prefer to go it alone[210]
(NFT/"Why the Bat Only Comes Out at Night"—Bat shows different parts of body to warring factions to convince them he allied with each. No one trusts him. Now Bat must be alone forever. "The Man, the Dove, and the Hawk"—Blind, lame man trying to choose between promises made by dove and hawk, seeks advice from friend who tells him he must figure it out on his own.)

E10g. The chimp that refused to return the favor[211]
(ATU/155—A man rescues a serpent (or a bear), who in return seeks to kill the rescuer. Fox, as judge, advises the man to put the serpent back into captivity. 160A—Violinist falls into the wolf's hole together with the bear and the wolf. He plays to them and in the morning, he helps the bear to get out; the bear then saves him, leaving the wolf who had hindered the violinist from getting out.)

E10h. Pigeons cooperate with computer[212]
(TMI/D1601.29. Self-playing gameboard.)

E10i. Gratitude in Animals[213]
(ATU/156—Androcles and the Lion. Man removes thorn from lion's foot. In

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210. Bullinger, Melis, and Tomasello 2011.

211. Melis, Hare, and Tomasello 2008.

212. Baker and Rachlin:

> Pigeons played a repeated prisoner's dilemma game against a computer that reflected their choices: If a pigeon cooperated on trial *n*, the computer cooperated on trial *n* + 1; if the pigeon defected on trial *n*, the computer defected on trial *n* + 1. Cooperation thus maximized reinforcement in the long term, but defection was worth more on the current trial. Under these circumstances, pigeons normally defect. However, when a signal correlated with the pigeon's previous choice immediately followed each current trial choice, some pigeons learned to cooperate. Furthermore, cooperation was higher when trials were close together in time than when they were separated by long intertrial intervals. (2002, 482)

213. Bonnie and de Waal 2004.

gratitude the lion later rewards the man.) (BAF/"The Goat Becomes a Pilgrim"—Hyena gives goat as gift to lion.)(FOB/"The Traveller and the Goldsmith"—Monkey washes travellers feet in gratitude.) (FTC/"Why the Cat Falls on Her Feet [Native American]"—Cat rewarded for warning hero of dangerous snake.)(NAAS/"The Alligator and the Hunter"—Grateful alligator repays favor.)

E10j. Chimps share diminishing resources[214] (BAF/"The Leopard's Share"—Tortoise shares elephant meat with leopard.)

E10k. Ants share their food[215] (IMF/100—In return for giving him better treatment, the dog invites the coyote [and his family] to a feast. 101—A farmer and his wife neglect an old dog who can no longer protect the farm animals. The coyote and the dog make an agreement. The dog will bark while the coyote steals animals, then the two will eat the meat.) [see also, "E13c. Ant farming."]

[NOTE TO SELF: *I am learning that animals sharing hard-won food resources (or more often perhaps, pretending to share) is a very common motif in folktales. Perhaps my colleagues in evolutionary psychology will be interested in building an index to create a detailed mapping of this motif onto their theories of how humans have evolved a cognitive module for thinking about food-sharing*.]

E11. Deceptive Animals

E11a. Trickster animals

E11a.1. Primate tricksters

E11a.1.a. Scientistic motif-index of primates who deceive

214. Calcutt et al. 2014.

215. Wallis 1961.

other primates in the wild (seriously)[216]
(ATU/125—The Wolf Flees from the Wolf-head. The sheep have found a sack and wolf head. They make the wolf believe that they have killed a wolf. He flees in terror.) (for many [many] more examples, see TMI/"K.—Deceptions" and numerous examples cited elsewhere in the FOMANCOG.)

[SECOND SPECIAL NOTE TO DOCTOR FOLKLOMINDO, OR SNDF-2: *Is it possible that the motif "animal [x] deceives animal [y]" is the most common construction of all animal tales worldwide for all of eternity? Sure seems like it.*]

E11a.1.b. Primate tricks human by hiding in the lab[217]
(ATU/91—Monkey when caught for his heart (as remedy) makes his captor believe that he has left his heart at home and is released.) (BAF/"The Elephant and the Hare"—Hare lies about stealing elephant's bananas.) (TMI/K874.1.—Ape pretends to delouse heron, but plucks out his feathers.)

E11a.1.c. Ape tricks bird in captivity using bread crumbs[218]
(NFT/"The Tortoise and the Tug of War"—Using rope, Tortoise tricks Elephant and Hippopotamus into playing tug of war against each other.)

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216. For a preliminary (albeit extensive) motif-index of tactical deception in primates, see: Whiten and Byrne 1988.

217. Hare, Call, and Tomasello 2006.

218. Köhler [1917] 1925, see Note 4 above.

E11a.1.d. Ape avoids ringing bell while stealing[219]
(ATU/110—Belling the Cat. The mice buy a bell for the cat but no one dares tie it on her.) (TMI/B81.13.10.—Mermaid prevents raising of sunken church bell. B271.3.—Animals ring bell and demand justice.)

E11a.2. Other animal tricksters

E11a.2.a. Bird mimics other species' calls, steals their food[220]
(ATU/57—A raven/crow has some cheese/meat in his mouth. The fox flatters the raven into singing. He drops his food and the fox gets it. 212—Father sends his sons one after the other to pasture the goat. The goat always declares he has had nothing to eat. The father angrily sends his sons from home and learns, when he himself tries to pasture the goat, that he has been deceived. 292—Ass Tries to Get a Cricket's Voice. Asks cricket what they eat to get such a voice. They answer, "dew." He tries it and starves.)

E11a.2.b. Deceptive fish[221]
(SFLS/"[10]Simon and the Talking Fish"—Talking fish convinces man to bring him home, clean him, cook him and eat him. Simon does so but then fish bursts out of his stomach.)

E11a.2.c. Dog Steals Food in the Dark[222]

219. Melis, Call, and Tomasello 2006.

220. Flower 2011.

221. Soares et al. 2014.

222. Kaminski, Pitsch, and Tomasello 2013.

(BAF/"The Goat Becomes a Pilgrim"—Lion and hyena want to eat goat in the dark.)

E11a.2.d. Cuttlefish cheaters always prosper[223]

(JSS/XII.—Spider wants to hire snake as his postman and offer snake bite of head and blood each night. Second night, spider realizes bites are too painful, decides to trick snake by inviting hare who will be bit, but hare escapes. When snake comes in, spider puts black pot over his head and snake bites pot, breaks teeth, spider is safe. XIX.—Spider invites screech owl to play music at a dance, but tricks owl. Eats him for breakfast. Becomes leader of owl's band and becomes greatest player and biggest "raskil" in the world.) (TMI/K896.1.—Beaver and porcupine trick each other. Beaver carries porcupine and abandons him in the center of a lake. Porcupine causes the lake to freeze and escapes. He then carries beaver

223. Brown et al. (2012):

> Here, we show that this ability is tactically employed by male mourning cuttlefish (*Sepia plangon*) to mislead conspecifics during courtship in a specific social context amenable to cheating 39 per cent of the time, while it was never employed in other social contexts. Males deceive rival males by displaying male courtship patterns to receptive females on one side of the body, and simultaneously displaying female patterns to a single rival male on the other, thus preventing the rival from disrupting courtship. The use of tactical deception in such a complex communication network indicates that sociality has played a key role in the cognitive evolution of cephalopods . . . The old adage that cheaters never prosper is far from applicable in the animal kingdom. (729)

and abandons him in the top of a tree. K15.1.—Climbing match won by deception: squirrel as "child." The ogre agrees to contest against the man's young one, i.e., a squirrel. K17.4.—Jumping frog contest. Frog filled with shot. K41.2.—Pig and dog as plowmen. Pig plows while dog sleeps. Then dog runs back and forth in furrow to claim victory. K18.3.—Throwing contest: bird substituted for stone. The ogre throws a stone; the hero a bird which flies out of sight. K25.2.—Contest in flying with load. One animal chooses cotton; the other, seeing that a rain is coming, chooses salt and wins. K171.0.2.—Jackal cheats other animals of elephant they have killed together. K171.9.—Monkey cheats fox of his share of bananas. Climbs on a tree and tosses peelings down upon fox. K233.5.—Jackal refuses payment for being carried. K11.9.—Obstacle race between deer and hare. Hare accused of removing obstacles from his course.)

E11a.2.e. Animal sneaks around barrier[224]
(CIP/*Chinese*—"A mole can undermine the strongest rampart.")

E11a.2.f. Snake deception[225]
(TMI/B176.1.1—Serpent as deceiver in paradise.)

E11a.2.g. Elephants engage in large-scale deception[226]

224. Schiller 1949; see also Köhler [1917] 1925, Note 4.

225. Shine 2012. [Personal Note to Doctor Folklomindo: If people don't belive us after this one, I give up!]

226. Morris 1986.

(NFT/"The Elephant and the Tortoise"—Singing bird warns elephant that tortoise is deceiving him.)

E11b. Animals tricked by disguised humans

E11b.1. Chimps and the "bad guy" who beats the haystack[227]
(ATU /206—The animals eating at night say they have good food because the straw has not been well threshed. The master hears and threshes it a second time. They grow hungry. 210—The Traveling Animals and the Wicked Man. The animals and objects hide themselves in various parts of a house. They punish with their characteristic powers the owner of the house and finally kill him. 295—The coal burns the straw in two and falls into the water. The bean laughs till it splits.)

E11b.2. Chimps learn to distrust human dressed as bandit[228]
(ATU/102—The dog as wolf's shoemaker. He demands material for the shoes and then successively eats up the cow, hog, etc. furnished him.)

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227. The experimenters trained apes to suck juice from a straw as they watched videos of (for example) humans (some of whom were, curiously, dressed as apes) running and hiding in one of two haystacks; another human appeared and beat the haystacks with (you guessed it) a stick. The apes' eye movements were analyzed to determine if they have a theory of mind (Krupenye et al. 2016).

228. In a landmark study by Woodfruff and Premack (1979), a human "bad guy" was dressed up as a bandit and solicited advice from young chimps about the location of hidden food. If the bandit could figure out which box the food was hidden inside, he nastily ate the food in front on them. Another experimenter was dressed as a "good guy" and shared the food with the chimps.

E11c. Animals using decoys/blinds

E11c.1. Alligators use sticks as decoy to fool birds[229]
(AFS/20——Lioness creates decoy by putting out pieces of bark to resemble meat. Hyena is fooled and captured.) (ATU/175——The rabbit, who has been stealing fruit from a garden, is captured by means of a tarbaby, an image with tar. The rabbit tries to make the tarbaby talk and finally becomes so angry that he strikes it. He sticks to the tarbaby and is captured.)

E11c.2. Lions sneak up on prey using cover[230]
(IMF/74*F——Rabbit covers himself with honey, rolls in dry leaves which stick to him. He is completely covered and disguised.) (SFFT/"The Fox's Strategem"——Fox uses clump of heather to hide himself as he

229. Dinets, Brueggen, and Brueggen:

> We report the use of twigs and sticks as bird lures by two crocodilian species. At least one of them uses this method predominantly during the nest-building season of its prey. This is the first known case of a predator not just using objects as lures, but also taking into account the seasonality of prey behavior. It provides a surprising insight into previously unrecognized complexity of archosaurian behavior. (2015, 74)

230. Hopcraft, Sinclair, and Packer have studied the issue using long-term radiotelemetry:

> As expected for a sit-and-wait predator, resting lions spent more time in areas with good cover. On a broad-scale, lions shifted their ranges according to the seasonal movement of prey, but at a finer scale (< 100 m) lions fed in areas with high prey "catchability" rather than high prey density. Plains lions selected erosion embankments, view-sheds from rocky outcrops, and access to free water. Woodland lions tended to use erosion embankments, and woody vegetation. (2005, 559)

swims up to ducks. He succeeds and eats two of them.)

E12. Animals and Warfare

E12a. Animals wield weapons

E12a.1. Apes use spears to hunt bush babies[231]

(AFS/22—Porcupine heats spear to defeat All-Devourer. 23—Wolf kills fox's mother with spear.) (BAF/"Njo the Leopard and Mbomoka the Tortoise"—Tortoise uses spear to kill leopard.)

E12a.2. Chimps take down drone with sticks[232]

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231. See Pruetz and Bertolani 2007. As no hunting was actually observed, this one's a real head-scratcher—especially because at last count it's been cited 441 times. Which raises another question: Why *don't* chimpanzees hunt with tools?

232. In an article for the venerable peer-reviewed journal, *Primates*, Jan van Hooff and Bas Lukkenaar report an attack by chimps against a drone:

> On 10 April 2015, a Dutch TV crew was filming at the Royal Burgers Zoo in Arnhem, The Netherlands. It was the intention to film the chimpanzees in the enclosure from close-by and from above with the means of a drone. When the drone came a bit closer to the chimpanzees, a female individual made two sweeps with a branch that she held in one hand. The second one was successful and downed the drone. The use of the stick in this context was a unique action. It seemed deliberate given the decision to collect it and carry it to a place where the drone might be attacked. This episode adds to the indications that chimpanzees engage in forward planning of tool-use acts. (2015, 289)

To celebrate the popularity of this paper, *Primates* created a special new "Social Media Impact Award." The editor-in-chief, Tetsuro Matsuzawa, explains:

> To celebrate the 60th anniversary of the Japan Monkey Centre (JMC) in 2016, we decided to establish a new annual prize for the paper with the highest social impact published in the journal *Primates*. The high social impact paper is selected by the Editor-in-Chief, Vice Editor-in-Chief, and Associate Editor in charge

(AFS/23—Wolf breaks off stick from bush to thrash fox. Fox then uses stick to beat wolf.)
(FTM/"The Sparrow's Eggs"—Dying bull promises that his tail will become magic stick that boy can use to kill enemies.)
[see also, "B1a. Sticks for reaching"]

E12a.3. Beavers use tools in aggressive display[233]
(TMI/B264.3.—Duel of buffalo and tiger. Buffalo arms self.)

E12a.4. Ants use stones to block entrances to other ants' colonies[234]
(AFS/31—Animal villagers block burrow entrance to trap trickster hare inside.)

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of Public Relations, based on data sources such as the Altmetric score (mentions in the media and social networking sites) and full-text downloads. The winner of the *Primates* Social Impact Award 2016 is Jan A. R. A. M. van Hooff. His paper with Bas Lukkenaar, titled "Captive chimpanzee takes down a drone: tool use toward a flying object" . . . got a lot of media attention, was frequently mentioned in social networks, and was highly downloaded. Their work thus contributed greatly to enhancing the reputation of our journal. For this achievement, the lead author will receive a gift from the Japan Monkey Centre and Springer. The co-author will receive a declaration attesting to his contributions . . . After the paper was published, Prof. van Hooff kindly provided original video material with subtitles explaining the displayed behaviors, so that interested readers can view them and judge for themselves . . . Please join us in congratulating them and enjoy watching the video. (2017, 5)

233. Thomsen, Campbell, and Rosell 2007.

234. Möglich and Alpert 1979.

E12a.5. Saber rattling by chimpanzees[235]
(ATU/104—The Cowardly Duelers. War between the domestic and wild animals. The cat raises her tail; the wild animals think it is a gun and flee.) (TMI/B260.—Animal warfare.)

E12a.6. Monkeys club poisonous snake[236]
(AFS/29—Lioness ties hyena to tree, fetches sticks to club him.) (IMF/176—Rabbit knocks at the cave door, beats the lion with a club, then hides. 225—Buzzard invites monkey to fiesta in the clouds. With guitar, rabbit climbs on back of buzzard, who flies. Buzzard tries to make the rabbit fall, but latter hits him over the head with the guitar, helps buzzard fly back to earth.) (MRT/"Battling Bow Weevil"—Big bow weevil beats small bow weevil with axe handle for being lazy.)

E12b. Animal warfare

E12b.1. Chimps patrol territory boundaries in silence[237]

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235. Kortlandt:

> I have mentioned the brandishing and throwing of clubs [by the chimpanzees] during intimidation displays, but this is apparently a kind of saber rattling rather than real fighting. I never saw one animal actually hit another with a club, nor did I see any wounds or scars. As a matter of fact, in most cases the intimidation display did not seem to be aimed at any individual; my impression is that it served mainly as an outlet that enabled the adult males to live together in peace. (1962, 134)

236. Boinski 1988.

237. Watts and Mitani 2001; see also Mitani and Watts 2005. Question: Stealth hunters (e.g., lions and pythons) are quiet when they hunt, no? What's the difference? Worth

(AFS/39—Elephant's wife gathers brothers at night and makes them swear to be quiet as they silently steal everything except a cow, a sheep, and a goat.) (FTM/"Why the Leopard Can Only Catch Prey on Its Left Side" [Ghana]—"Cat teaches leopard how to be silent while hunting.")
[see also, "E2e. Animals know (or don't know) that others hear" and "C4. Animal Teachers"]

E12b.2. Ground squirrels post sentinels[238]
(BAF/"The Drought"—Animals take turns standing guard.)

E12b.3. Chimp war against the stuffed leopards[239]

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asking, I think. See also main FOMANCOG: "E2e. Animals know/don't know that others hear."

238. Blumstein 1999; van Der Merwe and Brown 2008.

239. Kortlandt:

> In my opinion chimpanzees do use weapons against leopards. Although I did not find any evidence for this in my field studies, I have observed it in apes in captivity. At the Pasteur Institute in Guinea I put a tame leopard on the wall of a large compound in which an adult male chimpanzee, three mothers and five juveniles were living under semiwild conditions. As soon as they caught sight of the cat, the adults ran toward it, screaming loudly and rising to their hind legs. Soon thereafter they grabbed the sticks I had previously scattered in their enclosure and threatened the leopard with them. Two of the apes, after finding the largest of the sticks, charged furiously at their enemy. The leopard was, however, just beyond their reach. Since these apes were near maturity when they were captured, they undoubtedly had had experience with leopards in the wild. In another experiment I brought a caged tiger near a half-grown male chimpanzee that had been born in the zoo and had never before seen a large beast of prey. Within a few seconds the chimpanzee picked up

(TMI/B262.—War between domestic and wild animals. B263.—War between other groups of animals. B263.2.—War between elephants and ants. B263.4—War between birds and reptiles.)

E12b.4. War among the chimps[240] (TMI/B263.6.—War of monkeys and grasshoppers. B268.1—Army of apes.)

E12b.5. War among the lions[241] (TMI/B263.8.—War between lion and other animals.)

E12b.6. War among the hyenas[242] (TMI/B263.5.1.—War between birds and eagle.)

E12b.7. War among the cheetahs[243] (TMI/B263.3.—War between crows and owls.)

E12b.8. War among the wolves[244] (TMI/B263.1.—War between toads and frogs. B263.7.—War between serpents and storks.)

E13. Animals and Domestication

E13a. Chimps on the brink of controlling fire[245]

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some wooden cubes I had put in his cage and began to bombard the tiger with them. (1962, 134–38)

Kortlandt later conducted experiments in Africa in which stuffed leopards were projected, rolled, and otherwise thrust upon chimpanzees as he filmed their reactions—which include throwing sticks and clubbing the leopard, eventually decapitating it. For a readily accessible clip of one of Kortlandt's famous stuffed leopard experiments, see the YouTube video, "Chimps Attacking Leopard" (everythingispointless 2007).

240. Feldblum et al. 2018.

241. Heinsohn and Packer 1995.

242. Kruuk and Kruuk 1972.

243. Caro and Collins 1986.

244. Mech et al. 1998.

245. Pruetz and LaDuke 2010, see also note 5 and Edwards 2010.

(BAF/"The Goat Becomes a Pilgrim"—Hyena orders hare to gather firewood.) (FOB/"The Traveller and the Goldsmith"—Cold monkeys try to use glow-worm to start a fire. Bird admonishes them for being foolish.) (FOJ/"The Rabbit and the Bear"—Rabbit uses fire-starting stone to light bear on fire.)(JSS/IX.—Spider sends his gal to Death to beg for fire. XXVIII.—Spider goes to candlefly to ask for fire.)

E13b. Chimpanzees who (would) cook sweet potatoes (if they could)[246]
(AFS/22—Mantis instructs porcupine to cook sheep meat for him so he can dine with humans. Porcupine complies. 23—Wolf and fox cook their kill in a pot. 31—Hare and Tortoise start a fire to cook their stolen sweet potatoes. 39—Elephant husband sent to fetch wood for fire.) (FOJ/"Kachi Kachi Mountain"—Badger cooks soup using old woman he has killed.)(GGS/What do monkeys wear when they are cooking? *Aperons!*[247]) (TMI/D1601.—Magic calabash cooks and cares for child. A1420.2.—Gods teach how to seek and prepare food.)

E13c. Ant farming[248]
(AFS/31—The hare convinces the antelope to cultivate a field and grow beans.) (BAF/"The Eyes of Justice"—Jackal and sheep start a farm.)

E13d. Animals and their homes

E13d.1. Chimps adapt to living in caves[249]
(AFS/25—Frog builds great city.) (ATU/112—Town Mouse and Country Mouse. Country mouse visits town mouse. Former prefers poverty with safety.) (BAF/"The Goat Becomes a Pilgrim"—Hyena takes goat to cave for night.)

246. Warneken and Rosati 2015.

247. Hanson 2015.

248. Sosa-Calvo et al. 2017.

249. Pruetz and Bertolani 2009.

(TMI/A151.1.2.—Home of gods in cave. A1232.3.—Mankind emerges from caves. A1414.7.3.—Cave as repository of fire. R45.3.1.—Bear keeps human wife captive in cave with stone at entrance.)

E13d.2. The Bower bird home decorator[250]
(ATU/241—Bird, sitting in its nest during a cold rain, asks shivering monkey why it doesn't build a house since it has hands like a man. The enraged monkey destroys the bird's nest.)

E13d.3. Chimps build comfortable nest[251]
(ATU/43—The Bear Builds a House of Wood; the Fox, of Ice. In summer the fox wants to drive the bear out of his house.) (BAF/"The Weaver Bird and the Hummingbird"—Weaverbird weaves a beautiful, comfortable nest.")(TMI/B572.—Animals build palace home for hero.)

E13e. Gibbon monogamy (variants: thousands of passerine and nonpasserine birds)[252]
(ATU/96—When the hare was married. 224—Wedding of the Turkey and the Peacock. All birds are invited to the wedding except the eagle. This omission starts a great conflict.)

E13f. Animals understanding of roles

E13f.1. Role taking (variants: chimps, monkeys, crows. . .)[253]

250. Diamond 1986, 1987, 1988.

251. Stewart, Pruetz, and Hansell 2007.

252. Reichard 1995.

253. Bullinger et al.:
We assessed chimpanzees' ability to coordinate in a Stag Hunt game. Dyads were confronted with a situation in which each individual was already foraging on

(ATU/85—The Mouse, the Bird, and the Sausage. The mouse, the bird, and the sausage keep house together each with appropriate duties. When they exchange roles, all goes ill.)

E13f.2. Division of labor in animal societies

E13.f.2.a. Insect societies[254]

(PER/504—Drones took over a hive. The bees objected and asked the wasp to judge the issue. The wasp asked each side to build a comb. Bees did, drones did not. Bees won.)

E13.f.2.b. Wolf society[255]

(BAF/"The Jackal's Greed"—Lion, jackal, crow, hog, gazelle and hare form a cooperative living arrangement where everyone has specific duties.) (TMI/J512.7.1.—Elephant, giraffe,

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a low-value food (hare) when a high-value food (stag) appeared that required collaboration for retrieval, with a solo attempt to get the stag resulting in a loss of both options. In one condition visibility between partners was open whereas in the other it was blocked by a barrier. Regardless of condition, dyads almost always (91%) coordinated to choose the higher valued collaborative option. Intentional communication or monitoring of the partner's behavior before decision making—characteristic of much human coordination—were limited. Instead, all dyads adopted a leader–follower strategy in which one partner took the risk of going first, presumably predicting that this would induce the other to join in (sometimes communicating if she was slow to do so). These results show that humans' closest primate relatives do not use complex communication to coordinate but most often use a less cognitively complex strategy that achieves the same end. (2011, 1296)

See also Povinelli, Nelson, and Boysen 1992; Povinelli, Parks, and Novak 1992.

254. Robinson 1992.

255. Mech 1999.

snake, and ant try keeping house together: requirements different.)

E13.f.2.c. Animal division of labor in the popular imagination[256]
(TMI/ B238—*Animal council assigns place and work to all.* A1472.—Begininning of division of labor.) [cf. basically all known animal tales.]

E13g. Animals lounging at jungle pools

E13g.1. Chimpanzees relaxing in pool[257]
(AFS/31—Hare lounges and swims in water pool with Tortoise.) (NAAS/"Turtle Races with Beaver"—Turtle creates a comfortable home in a small pond where he can sun himself.)

E13h. Animals who love their pets

E13h.1. Koko's Kitten[258]
(TMI/A2513.2.—How cat was domesticated.)

E14. Animals of Different Species Befriend Each Other[259]
(ATU/107—Dog Leader Fears Defeat Because his Forces are of Different Breeds. 131—Tiger as False Friend to the Cow.) (IMF/*98—She-bear and she-doe, both with young, become friends.) (NFT/"The Tortoise and the Snake"—Tortoise and Snake are close friends.) (Note: TMI "A2493. Friendships between the animals" lists thirty five interspecific friendships including those between prairedog and owl, bat and owl, tiger and buffalo, deer and fish, squirrel and quail, cat and mouse, cat and rat,

256. While not strictly copacetic with the scope of other works cited herein, I do believe Doctor Folklomindo will find the work of Martin (2000) of particular interest.

257. Pruetz and Bertolani 2009, see also note 219.

258. Patterson and Cohn 1985; Vessels 1985; Patterson and Gordon 2002.

259. Holland 2011.

jackal and crocodile, turtle and wallaby, monkey and elephant, wolf and ass, etc. see also, B543.3.1.—Elephant rescues stolen girl.)

E15. Coercive Behavior

E15a. Slavery in monkeys[260]
(BAF/"The Jackal and the Hedgehog"—Jackal forces hedgehog to do work for him.)

E15b. Indentured Servitude in Crows[261]
(IMF/37—Rabbit takes job as servant for fox, successfully cooks and serves the little foxes to their mother.) (RFT/"Prince Ivan, the Firebird and the Gray Wolf"—Wolf captures raven and coerces her to do work for him.")

E15c. Animals enforce social contracts

E15c.1. Primates punish (maybe not) cheaters[262]
(AGFT/"The Baboons and the Village Women"—Baboons decide to punish woman who breaks social contract to share food with them.)(JSS/XXXVII.—Monkey punishes spider for stealing his corn.)(TMI/A2322.6.—Why the gorilla and chimpanzee have hair all over the body. Punishment for not guarding possessions at creation. A2345.9.—Why gorilla and chimpanzee have large teeth in mouth: punishment for neglecting possessions. B294.3.—Dog sells rotten peas on market; punished by other animals.)

E15c.2. Plants punish cheaters[263]
(TMI/A978.2.—Iron created to punish cedar's pride. A2721.3.

260. Horel, Treichler, and Meyer 1963.

261. *National Geographic* 2018.

262. Chancellor and Isbell 2008; C.f. Riedl et al. 2012. [I add this reference with the warning that due diligence be performed before citing it: Hauser 1992.]

263. Kiers et al. 2003.

—Plant punished for ungracious answer to holy person. A2726.—Plant punished for tale telling.)

E15c.3. Insects punish cheaters[264]
(TMI/A2012.3.—God sends stinging bees to punish men. A2032.1.—Creation of flea: punishment for laziness. A2239.2.—Fly punished for failing to answer question: is speechless, buzzes and associates with foul things. A2232.2.—Bees pray for sting: punishment, first sting suicidal.)

E15c.4. Still more animals punish cheaters[265]
(TMI/A1731.—Creation of animals as punishment for beating forbidden drum. A2233.1.—Animals refuse to help dig well [make road] and are punished. A2236.5.—Animal punished for not heralding dawn. M205.1.1—Turtle carrying man through water upsets him because of a broken promise. M205.1.1.1.—Fish [whale] carrying man through water shakes him off when man strikes him with coconut.)
[cf. "E11a.2.d. Cuttlefish cheaters always prosper"]

E16. Animal Imitation[266]
(ATU/1—The fox plays dead; a man throws him on his wagon of fish. The fox throws the fish off and carries them away. The wolf imitates

264. Edwards et al. 2006.

265. Riehl and Frederickson 2016; Raihani, Thornton, and Bshary 2012; Strassmann 2004.

266. I can think of no better place for the reader to start than Galef's (2009) excellent historical overview of the study of animal imitation in the laboratory. After that? Good luck—it's a bear of a problem.

and is caught.) (TMI/A2232.10.—Raven attempts to imitate dove: punished with awkward gait.)

[NOTE TO SELF: *Expansive topic. Needs its own index.*]

E17. Animal Neuroses[267]

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267. Humphrey and Marcuse:

Maier described certain disordered activities that he obtained in the rat. We have succeeded in duplicating his results by techniques entirely different from his. Maier used Lashley's jumping board technique, according to which the rat jumps from a platform at one of two patterns, behind one of which is food. Acutely disordered behavior ("neurotic") was produced when one pattern was removed leaving the animal no choice but at the same time forcing it to jump by turning a jet of air upon it. We have used a new series of stimuli, graded in severity, partly on normal rats, partly on a small group of animals in which chronically disordered behavior has been induced by a method to be described. The method apparently permits of differentiation between these two groups and clearly contrasts what may be called a chronic and a traumatic stage of abnormal behavior. In order to induce chronically disordered behavior, 10 rats were trained by daily runs for 25 days in a Warner-Warden multiple Y-maze, set up in the type left, right, left, right, foodbox. The foodbox had no bottom so that the rat and its food were in direct contact with the floor of the room. With 6 of the animals the foodbox was moved along the floor, after the animal was in the box and the door closed. Movement was carefully effected so as not to cause pain; the extent of movement varied from 4 to 10 ft., with no appreciable effect on immediate behavior, except that the animals did not eat until movement ceased. The relation of this movement to the animal was something like that of a revolving door, which is being pushed by someone else, to a pedestrian. The remaining 4 rats were trained in the ordinary way, with a stationary foodbox. (1939, 616)

(GGS/What did the neurotic pig say to the farmer? *I'm tired of you taking me for grunted!*[268])

F. ANIMALS AND SELF-AWARENESS
F1. Self-Recognition in Mirrors
F1a. Primate recognizes itself in the mirror
F1a.1. Chimpanzee recognizes self in mirror[269]
(TMI/J1791.—Reflection in water thought to be the original of the thing reflected.)
F1a.2. Orangutan recognizes self in mirror[270]
(see above, TMI/J1791.)
F1a.3. Gorilla does NOT recognize self in mirror[271]
(TMI/J1791.7.—Man does not recognize his own reflection in the water.)
F1a.4. Gorilla DOES recognize self in mirror[272]
(see above, TMI/J1791.)
F1a.5. No, really, gorillas do not see who they are in mirrors[273]
(TMI/K1715.1.—Weak animal shows strong his own reflection and makes him believe that it is the head of the last animal slain by the weak.)
F1a.6. Monkeys and mirrors
F1a.6.a. A rabbit hole of monkeys with mirrors.[274]

268. Originalsmit 2003.
269. Gallup 1970.
270. Suárez and Gallup 1981.
271. Suárez and Gallup 1981.
272. Patterson and Cohn 1994.
273. Ledbetter and Basen 1982.
274. Ah, the classic animal cognition imbroglio! My teeth were cut on the controversial issue of self-recognition in mirrors and whether the capacity was restricted to the great apes and humans. The attempt to demonstrate mirror

(TIM/ K1052.—Dragon attacks own image in mirror. J1791.5.2.—Man throws stone at own reflection in water.)

F1b. Other mammals recognize (or do not recognize) themselves in the mirror

F1b.1. Dolphins and mirrors

[see below, "F1d. Sea Creatures and Mirrors"]

F1b.2. Elephants and mirrors

F1b.2.a. Elephant does NOT recognize itself in the mirror[275]

(TMI/J1791.12.—Elephant frightened at agitated reflection of moon in water.)

F1b.2.b. One out of three elephants can recognize themselves one-third of the time[276]

(TMI/J1791.5.3.—Frog leaps into water after elephant's reflection.)

F1b.3. Horses possibly recognize themselves in mirror[277]

(ATU/77—The stag admires himself in a spring. He is proud of his horns, ashamed of his legs. In flight his horns are caught and the dogs overtake him.)

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self-recognition in primates other than great apes is a fifty-year study in the clever, resourceful, foxy, and equally obdurate nature of comparative psychologists. It would be foolish for me to do anything other than point toward some hand-holds that the interested reader can use to pull themselves into the historical mire. I suggest starting with the oppositional positions outlined by Anderson and Gallup (2015), on the one hand, and Huttunen, Adams, and Platt (2017) on the other.

275. Povinelli 1989.

276. Plotnik, de Waal, and Reiss 2006.

277. Baragli et al. 2017.

F1b.4. Malaysian sun bears and mirrors[278]
(ATU/92—The hare, sent to be the lion's dinner, says he has been detained by a more powerful enemy and shows the lion his own reflection in a well. The lion leaps in and is drowned.)

F1b.5. Dog does not recognize self in mirror[279]
(TMI/J1791.4.—Dog drops his meat for the reflection. Crossing a stream with meat in his mouth he sees his reflection; thinking it another dog with meat he dives for it and loses his meat.)

F1b.6. Goats and mirror self-recognition[280]
(ATU/132—Goat admires his horns in the water, and says, "I needn't be afraid of the wolf." Wolf behind him asks him what he was saying. Goat: "One talks such foolishness when one is drinking.")

F1c. Bird does (or does not) recognizes self in the mirror

F1c.1. Crow studies itself in the mirror[281]
(TMI/W116.4.—Peacock admires self in mirror.) (see also above: ATU/132)

F1c.2. Magpie recognizes self in mirror[282]
(see above, TMI/J1791)

F1c.3. Clark's nutcrackers sees herself (more clearly) in a blurry mirror[283]
(see above, TMI/J1791)

278. Hafandi et al. 2018.
279. Gallup 1968.
280. Hals 2016.
281. Kusayama, Bischof, and Watanabe 2000.
282. Prior, Schwarz, and Güntürkün 2008.
283. Clary and Kelly 2016.

F1c.4. Pigeon "recognizes self" in mirror[284]
(see above, TMI/W116.4)

F1c.5. Mirrors make flamingos dance[285]
(NFT/"The Bellicose Chicken"—Chicken looks in well and threatens her own reflection.) (TMI/J1791.8.—Goose dives for [reflection of] star, thinking it a fish.)

F1d. Sea creatures that do (or do not) recognize self in mirror

F1d.1. Dolphins and mirrors

F1d.1.a. Dolphins do upside-down-sideways dance and impress judges to get into mirror self-recognition club[286]
(see above, TMI/J1791.)

F1d.1.b. Dolphins recognize selves in mirrors faster than human children[287]
(see above TMI/J1791.)

F1d.1.c. Manta Ray (maybe) recognizes self in mirror[288]
(see above, NFT/"The Bellicose Chicken.")

F1d.2. Cichlid fish do not recognize self[289]
(see above, NFT / "The Bellicose Chicken.")

F1d.3. Tiny cleaner wrasse fish does know self in mirror[290]
(see above, TMI/J1791.)

284. Epstein, Lanza, and Skinner 1981.
285. Pickering and Duverge 1992.
286. Reiss and Marino 2001.
287. Morrison and Reiss 2018.
288. Ari and D'Agostino 2016.
289. Hotta, Komiyama, and Kohda 2018.
290. Kohda et al. 2018.

F1e. Giant panda bear duped by her mirror image[291]
(see above, NFT/"The Bellicose Chicken.")

F1f. Insect recognizes self in mirror

F1f.1. Ant (ant!) recognizes self in mirror[292]
(see above, TMI/J1791.) (ATU/280—The Ant Carries a Load as Large as Himself.)

F1g. Brain recognizes itself in mirror[293]
(see above, TMI/J1791.)

F2. Recognizing One's Own Shadow

F2a. Chimp recognizes her shadow[294]
(FOB/"The Lion and the Bull"—Hare tricks lion into looking into a well for the rival lion that the hare claims stole his breakfast hare. Lion sees his shadow and the shadow of the hare and dives in and is drown.)

F3. Self-Recognition in Odors and Chemicals

F3a. Dog recognizes her own pee in the snow (or not)[295]
(IMF/126A*—Cat and sheep are pursued by wolves, climb tree. Wolves follow them to foot of tree, wait. Sheep has to urinate. In doing so, he falls. Wolves are frightened, flee.) (TMI/ D1331.2.7.—Dog's urine makes tiger blind. D1027.1.—Magic urine of serpent.)

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291. Ma et al.:
Thirty-four captive giant pandas (F:M = 18:16; juveniles, sub-adults and adults) were subjected to four mirror tests: covered mirror tests, open mirror tests, water mark control tests, and mark tests. The results showed that, though adult, sub-adult and juvenile pandas exposed to mirrors spent similar amounts of time in social mirror-directed behaviors . . . none of them used the mirror to touch the mark on their head, a self-directed behavior suggesting MSR. (2015, 713)

292. Cammaerts, Tricot, and Cammaerts 2015.

293. Keenan et al. 2000.

294. Boysen, Bryan, and Shreyer 1994.

295. Horowitz 2017; cf. Gallup and Anderson 2018.

F3b. Tree/plant self-recognition[296]
(TMI/D431.6.—Transformation: plant to person. D1610.3.4.—Speaking egg-plant. D1314.7.—Magic plant (flower) shows location of treasure. D1367.1.—Magic plant causes insanity. D1610.2.1.—Speaking oak.)

F4. Elephants Are Self-Aware of the Weight of Their Bodies[297]
(AFS/28—Leopard puts himself into basket that is tied to a string but realizes he is too heavy for the old tortoise in the tree to pull him up so he gets out.) (SFLS/"[5] Brother Fox and Brother Rabbit"—Rabbit is trapped in well. Rabbit convinces fox to get in high bucket and come down and have a drink. Heavier fox goes down and lighter rabbit rides the other bucket up and escapes.)

F5. Animals and Self Across Time and Space

F5a. Animals remember who, what, where, and when

F5a.1. Rat remembers who, what, where, and when[298]
(TMI/B134.1.1.—Truth-telling dog tells of incest.)

F5a.2. Scrub jay remembers who, what, where, and when[299]
(TMI/B505.2.—Animal tells hero where to find magic object. B133.0.1.1.—Ass alone knows where hidden wind can be found.)

F5a.3. Rat answers unexpected question[300]
(FOB/"The Owls and the Crows"—King takes crow into private chambers and asks him how the quarrel began between crows and owls. Crows recalls very detailed history of the dispute.) (TMI/B126.—Amphibian

296. Haring et al. 1990; Nasrallah 2002.
297. Dale and Plotnik 2017.
298. Roberts 2016.
299. Clayton and Dickinson 1998.
300. Zhou, Hohmann, and Crystal 2012.

with magic knowledge. B126.1.—Frog with magic knowledge.)

F5b. Animals who know they don't know (variants: dolphins, rats, scrub jays...)[301] (BAF/"The Goat Becomes a Pilgrim." Goat as scholar. Hare pretends not to understand but he really does.) (NFT/"The Wasp and the Bee"—Bee listens to God knowing he needs the knowledge; wasp thinks he doesn't need to know.)

F5c. Animals plan/predict the future

F5c.1. Ravens plan for future[302] (BAF/"The Land of the Dead"—Tortoise knows men who are drinking wine will soon wind up quarreling and kill each other.) (FTFL/"Brer Goat"—Rabbit devises scheme to drink all of the cane syrup of goat and turtle. It works.) (TMI/ see 143.0.1.-143.0.8.1. See especially, 143.0.4—Raven as prophetic bird and 143.0.8—Crow as prophetic bird.)

F5c.2. Chimps save spoons for their morning pudding[303] (NCF/"In the Chest"—Rabbit and Fox devise a plan to wake up before dawn to steal pears and apples for breakfast. Fox leaves without rabbit and gets fruits.)

F5c.3. Chimp trapped in zoo saves stones to throw at tormentors (i.e., zoo visitors)[304] (FOJ/"The Hare, the Badger, Monkey and Otter"—Animals devise a plan for hare to distract man while others steal his goods. Plan works IMF/78A—Fox tells coyote that

301. Smith et al. 1955; Hampton 2001; Foote and Crystal 2007.

302. Kabadayi and Osvath 2017.

303. Mulcahy and Call 2006.

304. Osvath 2009.

hailstorm is coming, persuades coyote to get into a bag, which fox hangs from tree. He pelts bag with stones, kills coyote.)

F5c.4. Scrub jays plan for their breakfast[305]
(FOB/"The Lion and the Bull"—Swan plans breakfast each day by tricking fish into believing that fishermen will catch them but that he can carry two of them to safety each morning. Instead, swan eats them.) (JSS/XIX.—Spider devises plan to eat screech-owl for breakfast. Plan works.)

F5c.5. Chimps plan their breakfast[306]
(FOB/"The Lion and the Bull"—Animals of the forest devise plan to furnish lion with breakfast each morning. Plan fails.)

F5c.6. Chimps and orangutans save tools for future use[307]
(BAF/"The Hornbill, the Jackal, and the Crow"—Jackal makes a clay axe.)

F6. Animals Longing for Freedom[308]

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305. Raby et al. 2007.

306. Janmaat et al. 2014.

307. Osvath and Osvath 2008.

308. One of the most prominent attempts to gain freedom ("personhood") for animals through litigation has been the indefatigable work of Steven Wise, an attorney and founder of The Nonhuman Rights Project. The mission of the project is described as the "work to secure legally recognized fundamental rights for nonhuman animals through litigation, legislation, and education." Five objectives are listed:

> (1) To change the common law status of great apes, elephants, dolphins, and whales from mere "things," which lack the capacity to possess any legal right, to "legal persons," who possess such fundamental rights as bodily liberty and bodily integrity. (2) To draw on the common law and evolving standards of morality, scientific discovery, and human experience to consider other qualities that may be sufficient for recognition of nonhuman animals' legal personhood and fundamental rights. (3)

(ATU/201—The Lean Dog Prefers Liberty to Abundant Food and a Chain.) (BAF/"Do Not Be Fooled Twice"—Monkey tells fable of jackal who tempts donkey with promise of freedom.) (CIP/*Turkish*—"The fish comes to his senses after he gets into the net.") (FTM/"The Story of Mara Kshattri"—Resentful old eagle demand freedom from cage.) (PER/131—The mind is responsible for our happiness. A daw has to choose between life in the wild and a life in captivity. 202—Caged Dove boasted to a Crow about all its young. The Crow pointed out to the Dove that having many young is good but it's better for them to be free. 409—Fox reviled a Lion in a cage. The Lion made it clear that it was chance that brought him there and not the Fox.) (TMI/J211.2.1.—Fly jeers at king's elephant for his lack of freedom.)

F7. Animals and Ownership[309]

(AFS/24—The elephant convinces the tortoise to watch a watering hole he has claimed. The tortoise defends it against all but the lion who claims it for himself.) (BAF / "The Lion and the Hyena"—Lion owns a bull, hyena owns a cow.) (BAF/"Why Bats Hang Face-Down"—Bat king will not relinquish

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To develop local, national, and global issue-oriented grassroots and legislative campaigns to promote recognition of nonhuman animals as beings worthy of moral and legal consideration and with their own inherent interests in freedom from captivity, participation in a community of other members of their species, and the protection of their natural habitats. (4) To build a broad-based coalition of organizations and individuals to secure legally recognized fundamental rights for nonhuman animals. (5) To foster understanding of the social, historical, political, and legal justice of our arguments and the scientific discovery of other species' cognitive and emotional complexity that informs them. (Nonhuman Rights Project 2019)

See Donnellan 2018; D'Amelio 2018.

309. Stake (2004) provides a provocative discussion of the sense of property and ownership in a wide range of animals including birds, salamanders, and baboons.

his prized possession.) (NAAS/"Turtle Races with Beaver"—Turtle and beaver debate who owns the pond.) [cf. Just about half of the animal folktales I've encountered so far.]

F8. Animals and Awareness of One's Own Demise

F8a. Ape master invents method to teach ape of its own demise[310]
(BAF/"The Hyena and Death"—Hyena steals sheep from Death and cannot escape him when he comes reckoning. "The Goat and the Hyena"—Goat pretends to gather wood for his own funeral pyre.) (JSS/V.—Monkey fears his own death by spider's trickery. Avoids being killed.) (NAAS/"The Dogs Who Saved Their Master"—Dog laments his impending demise.)

F8b. Noble ant faces death alone[311]
(AFS/23—Fox uses ant to bite his mother's eyelid. When she does not wake up, he knows

310. In reflecting on his famous experiments trying to teach human language to Sarah and other chimpanzees, David Premack famously wondered:

> Can I tell an ape that it will die? Could I arrange procedures that would culminate in a knowledge of death? If we succeeded in communicating this information to even one animal, saw its hair stand on end, heard it moan, we would know we had provided the necessary conceptual elements which the animal combined to make this knowledge possible. And we would have proved that the limits of the ape's concept of self approach our own more closely than had been thought. . . But we cannot take such pedagogy lightly. What if, like us, the ape dreads death and will deal with it as bizarrely as we have? . . . The desired objective would be not only to communicate this knowledge, but, more importantly, to find a way of making sure the ape's response to the knowledge of death will not be that of dread which, in the human case, has led to the invention of ritual, myth and religion. Until I can suggest concrete steps in teaching the concept of death without fear, I have no intention of imparting the knowledge of mortality to the ape. (1976, 674)

311. Chapuisat 2010.

she had died.) (GGS/ Name the Ant who always likes to be alone? *The independ-ant!*[312])

F9. Animal Embarrassment[313]

(BAF/"The Dog and the Chimpanzee" [In discussing this folk tale, Knappert reports that the people of East Africa say: "If the chimpanzee could see his own behind, he would laugh too!"[314]].) (JSS/XI.——Rat slips while dancing and splits his trousers. Embarrassed he hides in hole, where he lives to this day.)

G. ANIMALS AND ART

G1. Animals and Artistic Performance

G1a. Dancing animals

G1a.1. The dancing bear[315]

(CIP/German——"If the bear will learn to dance he must go to school early.") (FTM/"The Golden Peacock"——Tiger leads boy to twelve dancing bears.)(TMI/B293.1.——Dance of cats. B293.2.——Dance of

312. Jokes4us.com 2019a.

313. Sanders:

> This article focuses on the criteria used by dog owners to define their animals as minded individuals with whom they maintain viable and satisfying social relationships. The discussion is based on field data drawn from a study in a veterinary clinic, interviews with dog owners, and autoethnographic materials compiled by the author as he observed and interacted with his own dogs. Special attention is directed at caretakers' understandings of their dogs' thought processes, emotional experiences, and unique personalities. The significance of investigations of animal-human interaction to enlarging sociological views of mindedness and the construction of social identities is emphasized . . . The most common theme that emerged from the encounters in the clinic and interviews with owners was that dogs are eminently emotional beings. Dogs were, for example, described as experiencing loneliness, joy, sadness, embarrassment, and anger. (1993, 205)

314. Knappert 2001, 283.

315. D'Cruze et al. 2011.

frog(s). B293.3.—Dance of tigers. B293.4.—Dance of lions. B293.5.—Dance of nagas [snake men].) (NAAS/"The Deer Dance"—Young deer dance for hunter.)

G1a.2. Seal dances to Backstreet Boys[316]
(BAF/"The Two Friends"—Dog holds a dance party.) (GGS/How can you tell which cow is the best dancer? *Wait til one busts a moooooove.*[317]) (JSS/XI.—Spider and cat throw a ball and invite rat.)

G1a.3. The chimp who danced to tame fire[318]
(NAAS/Manabozho and the Woodpecker"—Snakes breath fire.)
[see also, "A2. Animals in Rituals"]

G1a.4. Dancing birds

G1a.4.a. Mating dance of the waved albatross[319]
(CIP/*Danish*—"Sparrows should not dance with cranes—their legs are too short.") (TMI/K916.1.—Peacock helper dances before enemy army of hero, from her tail burns them all to ashes.)

G1a.4.b. Parrot dances "Gangham Style"[320]

316. Cook et al. 2013.

317. Jokes4us.com 2019c.

318. Pruetz and LaDuke 2010, see Note 5 above.

319. The mating dance of the waved albatross (*Phoebastria irrorata*) is oddly riveting for human observers—including, I admit without reservation, *this* human observer. See, for example, the YouTube video "Courtship Dance of the Waved Albatross" (LauraLovebird 2011); or see any of the other dozens of video clips by tourists and natural history documentaries that have been uploaded onto the World Wide Web (a.k.a. "the internet").

320. The dancing skills of a well-known internet *phenom*—the sulphur-crested cockatoo named Snowball—have been analyzed in some detail by Patel et al. (2009) and were

(AFS/37—The Bird That Made Milk. Magic bird is released and dances for her former captors.) (GGS/What do you call a dancing sheep? A *baa*-lerina.[321])

G1b. Animals and music

G1b.1. Singing animals

G1b.1.a The singing whales[322]

(TMI/B81.3.2—Mermaid appears once each year, sings in choir, entices young man to follow her. B211.1.7.1.—Dog sings song.)

G1b.1.b. The singing gibbons[323]

(ATU/163—The singing wolf. By his singing the wolf compels the old man to surrender his cattle, his children and grandchildren, and finally his wife.) (TMI/B214.1.1.—Singing cow. B214.1.2.—Singing boar. B214.1.3.—Singing cat. B214.1.4.—Singing dog. B214.1.5.—Singing lion. B214.1.6.—Singing fox. B214.1.7.—Singing frog. B214.1.8.—Singing crab.

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found to be fairly robust. However, Bellini, Kleiman, and Cohen-Or caution:

> Although the parrot has an extraordinary ability to move according to the music beat, its performance is still imprecise. Snowball is famous enough to have been cast for a Taco Bell commercial in 2009, where he dances along with the song "Escape (the Piña Colada song)" by Rupert Holmes. Some of the movements of the parrot in the video are irregular, so some motion beats are not synchronized with the music beats. (2018, 204)

After implementing their advanced audiovisual processing methods, they were able to make the video of the parrot be more in time with the beat of the music: "As can be observed, our method modifies the video so that the movements become more rhythmical and better synchronized with the given song" (204).

321. Jokes4us.com 2019g.

322. Cholewiak et al. 2018.

323. Terleph, Malaivijitnond, and Reichard 2018.

B214.1.9.—Singing mouse. B214.1.10.—Singing snake.B214.1.11.—Singing hippopotamus. B214.1.12.—Singing elephant. B211.1.7.1.—Dog sings song. B214.—Animal whistles (sings, etc.). B256.6.2.—Boar makes music for holy man.)

G1b.1.c. Any and all manner of fowl[324] (TMI/B752.1.—Swan song. Swan sings as she dies. B151.2.0.3.—Bird shows way by singing.)

G1b.2. Animals and musical instruments

G1b.2.a. Chimpanzee drumming[325] (AFS/21—Spider makes drum for young Sun god so he can rehearse the name of the yam. 27—Gazelle makes drum to secretly summon the animals to exact revenge on the leopard for having killed the Antelope.) (TMI/B297.1.1.—Bird plays timpan.)

G1b.2.b. The (real) chimpanzee drummer[326] (TMI/B297.1.2.—Toad and chameleon play drum and xylophone. J1882.3.—Elephant educated as drum beater.)

G1b.2.c. Cricket makes a sound baffle[327] (GGS/A sheep, drum and a snake fall off a cliff. *Baa-Dum-Tssssss!!!*[328]) (NAAS/"The First Flute"—Woodpecker teaches man to make first flute.)

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324. Shannon 2016.

325. Arcadi, Robert, and Boesch 1998.

326. Dufour et al. 2015.

327. Prozesky-Schulze et al. 1975.

328. Popik 2018.

G1b.2d. Lancelot Link forms band called the *Evolution Revolution* to communicate coded messages[329] (ATU/151—Music lessons for wild animals. [Musician] tricks [animals] by catching their claws in a cleft tree.) (JSS/XI.—Spider plays fiddle at dance.) (NFT/"Why Apes Look Like People"—Animals play drums and other musical instrument as they dance and celebrate.) [see also, "C2e. Lone chimp leader communicates via secret drumming code but then never does so again"]

G2. Animals and Material Art

G2a. Painting and drawing animals

329. From Wikipedia:
Lancelot Link, Secret Chimp is an American action/adventure comedy series that originally aired on [the US TV network] ABC from September 12, 1970 to January 2, 1971. The Saturday morning live-action film series featured a cast of chimpanzees given apparent speaking roles by overdubbing with human voices . . . Link worked for A.P.E., the Agency to Prevent Evil, in an ongoing conflict with the evil organization C.H.U.M.P., the Criminal Headquarters for the Underworld's Master Plan . . . [*The Evolution Revolution* was an] all-chimp [*sic*] band, dressed in colorful hippie-style wigs and wardrobe, featured Lancelot Link (played by Tongo) on guitar and Mata Hairi (played by Debbie) on tambourine, with Blackie as "Bananas Marmoset" on the drums. "SweetWater Gibbons" (in fringed vest and granny glasses) was credited for playing Farfisa organ, although the organ usually pictured in the clips was a Vox Continental organ. . . In the episode "The Evolution Revolution," it was established that the band's music was used to communicate coded messages for APE agents. (2019b)

G2a.1. Elephants paint self-portrait[330]

330. Several years ago, the internet was stampeded with bracing videos of elephants painting dramatic representational images—elephants holding paintbrushes as they composed colorful images of trees, landscapes, even other elephants (see, for example, the YouTube video "Elephants Painting: Genuine Elephant Paintings" [New Horizon 2014]. It currently has 1,528,282 views.). And although the videos themselves, and the ensuing online commentary, confirm that digital discourse is capable of anthropomorphism, an onsite investigation by the legendary zoologist, Desmond Morris (2009), revealed the ugly, human truth:

> To most of the members of the audience, what they have seen appears to be almost miraculous. Elephants must surely be almost human in intelligence if they can paint pictures of flowers and trees in this way. What the audience overlooks are the actions of the mahouts as their animals are at work. This oversight is understandable because it is difficult to drag your eyes away from the brushes that are making the lines and spots. However, if you do so, you will notice that, with each mark, the mahout tugs at his elephant's ear. He nudges it up and down to get the animal to make a vertical line, or pulls it sideways to get a horizontal one. To encourage spots and blobs he tugs the ear forward, towards the canvas. So, very sadly, the design the elephant is making is not hers but his. There is no elephantine invention, no creativity, just slavish copying. Investigating further, after the show is over, it emerges that each of the so called artistic animals always produces exactly the same image, time after time, day after day, and week after week. [The elephant] Mook always paints a bunch of flowers, [the elephant] Christmas always does a tree, and [the elephant] Pimtong a climbing plant. Each elephant works to a set routine, guided by her master. The inevitable conclusion, therefore, is that elephants are not artists. Unlike the chimpanzees, they do not explore new patterns or vary the design of their work themselves. Superficially, they do appear to be more advanced, but it is all a trick. Having said this, what an amazingly clever trick it is! No human hand touches the animal's trunk. The brain of the elephant has to translate the tiny nudges she feels on her ear into attractive

(TMI/A2217.1.—Birds painted their present colors.)

G2a.2. Painting chimpanzees

G2a.2.a. Ape uses signs to name their paintings[331]

(TMI/J951.4.—Weasel paints self to deceive mice.)

G2a.3. Abstract art by snails' trails dipped in paint[332]

(TMI/J451.4.—Mirror begrimed by snail.)

G2a.4. Other animals (variants: all zoo animals do it for cash)[333]

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lines and blobs. And she has to place these marks on the white surface with great precision. This requires considerable intelligence and a muscular sensitivity that is truly extraordinary. So all is not lost. We can still marvel at the paintings these animals make, even if their skill is to do with muscle control rather than artistic ability.

331. See the "Gorilla Art" store page on *The Gorilla Foundation* (2019) website.

332. Messy Kids (2013):

> Snails are fascinating! I've loved them since I was a little kid. They are slimy but have the cutest faces! I mean have you ever taken the time to really look at it? Adorable! They are also good artists. To help your snails create art, you'll need a few items: Food coloring or Liquid Watercolors, Several small, shallow containers (one for each color you plan to use), Paper (a large sheet of butcher paper works best), Snails, Magnifying Glass (optional).

333. Many zoos give their animals brushes (or dip the animals themselves in paint) and then present them with (or set them on) canvases in order to create "animal paintings" (merchandise) to sell to the public. The famous Lincoln Children's Zoo (2019) in Chicago serves as a representative example:

> Animals at Lincoln Children's Zoo have raised their paws and paintbrushes to create original masterpieces for you to take home! All of the "animal artists" enjoy painting with non-toxic paint on canvas with a little help from their zookeeper. Zookeepers work to incorporate interesting and challenging activities into the

(TMI/J951.4.1.—Painted jackal admitted neither to the peacocks nor to the jackals.)

G2b. Chimp makes dolls[334]
(BAF/"The Tortoise and the Old Woman"—Speaking bird helps old woman make a doll come to life to scare away thieves. Tortoise not afraid of doll and steals fruit.) (FTM/"The Doll Bride"—Pigs frightened by doll.) (TMI/D435.1.4.—Wax prince animated by serpent becomes human being.)

G3. Animals Adorn Their Bodies

G3a. Deer adorn horns with hay and mud[335]
(BAF/"The Animals at the Market Place"—Elephant's wife redoes her tattoo and lioness combs her children's hair. "Gemsbok and Zebra"—Gemsbok steals zebra's horns and adorns her head.) (FOB/"The Traveller and the Goldsmith"—Tiger kills king's daughter and brings her trinkets to traveller to repay him for helping him escape from pit.)

G3b. Clothing

G3b.1. Apes wear clothing[336]
(AFS/25—Frog dresses young girl.) (ATU/289—Bush looks for his clothes and holds fast to all passers-by.)(BAF/"The Dog and the Chimpanzee"—Chimpanzees asks dog to hand him his sarong.)(FTM/"The

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animals' daily routine. Each animal uses his or her own special technique to create unique artwork through enrichment activities that were created to enhance their everyday lives. Each painting includes a photo of the animal artist with a short biography.

334. Kahlenberg and Wrangham 2010. (Sample media coverage: Handwerk 2010.)

335. Schaller and Hamer 1978; see also Beck 1980.

336. Numerous primatologists and zookeepers have reported incidents of apes adorning their bodies with burlap sacks, paper, and old clothing provided by humans (e.g., Köhler [1917] 1925). Chimpanzees are also reported to make simple rain hats to protect themselves from inclement weather (Nishida 1980).

King of the Birds"—Peacock takes too long to put on royal clothes and owl is anointed king.)(GGS/What does it mean if you find a horseshoe? *That some poor horse is walking around in his socks!*[337]) (JSS/VII.—Snake borrows nice clothes to woo girl to marry him.) (NFT/"The Elephant and the Tortoise"—Tortoise gives elephant king's clothes.)

G3b.2. Pets wear clothing[338]
(IMF/280*C—Ant makes dress from cloth she finds in road, runs away with prince.) (JJS/XXI.—Spider loans long boots, watch-and-chain, and helmet to his friend who is going courting.)
[see also, "C1a. Humans raise apes in their homes to teach them human language"]

G3c. Chimp makes and wears monkey skin necklace[339]
(FTM/"The Wagtail and the Mouse"—Wagtail buys earrings from old woman; mouse tries as well, but is denied purchase.)

H. ANIMALS IN STICKY WICKETS

H1. Animals and Water Displacement

H1a. The "Crow and Pitcher"

H1a.1. Crows[340]
(ATU/221—The Election of Bird-King. Wren wins by cleverness.)

H1a.2. Raccoons[341]
(NAAS/"Octopus and Raven"—Octopus drowns raven in water.)

337. Fought 2017.

338. Self-explanatory. But if not, see any poodle in the passing automobiles of affluent neighbors.

339. McGrew and Marchant 1998.

340. Bird and Emery 2009b.

341. Stanton et al. 2017.

H1a.3. Orangutans (Variant: spitting water into tube to levitate peanuts)[342]
(BAF/"The Eyes of Justice"—Jackal builds irrigation channels; sheep carries water in buckets.)

[THIRD SPECIAL NOTE TO DOCTOR FOLKLOMINDO, SNDF-3: *No experimental data yet found to verify this water-related fable: (SFFT/"The Fox Troubled with Fleas"—Fox with fleas bites a piece of wool and submerges himself in river. Fleas flee to his nose. He sinks further and fleas scramble to wool. Fox releases wool into river.) However, I could devise experimental procedures to test my dog. She has lots of fleas.*]

H2. Animals and Maps
H2a. Animal mental maps
H2a.1. Pigeon mental maps[343]
(NAAS/"Eagle Boy"—Badger shows boy way back to the city of the eagles.)
H2a.2. Rat mental maps[344]
(FTM/"The Golden Peacock"—Antelope leads boy through forest to find golden feather.)
H2a.3. Baboon mental maps[345]
(FTM/"The Golden Peacock"—Tiger leads boy to dancing bears, then elephant leads boy to golden peacock.)
H2b. Animals and analogical maps
H2b.1. Chimps map a doll house[346]
(GGS/What do you get if you cross a farm animal with a map maker? *A cow-tographer!*"[347])

342. Mendes, Hanus, and Call 2007.
343. Blaisdell and Cook 2005.
344. Tolman 1948.
345. Noser and Byrne 2007.
346. Kuhlmeier and Boysen 2002.
347. Molloy 2019.

H2b.2. Apes follow visual trails to locate food[348]
(AFS/22—All-Devourer [man] follows trail of the porcupine's spoor back to mantis's home. 23—Wolf follows spoor trail of fox to find him.)

H2b.3. Chimp can/cannot read map to find banana[349]
(GGS/"What's big, furry, white and always points North? *A Polar Bearing!*"[350]) (NFT / "Why the Tortoise's Shell is Cracked and Cooked"—Tortoise follows dog's footprints.)

H3. Animals and *And* vs. *Or*

H3a. Great apes understand exclusion in noisy/silent cup problem[351]
(BAF/"The Rat and the Squirrel"—Rat uses wound on squirrel's back as evidence that a trap fell on him.)

H3b. So do three dogs (but no pigeons)[352]
(BAF/"The Ostrich and the Guinea Fowl"—God tests guinea fowl's claim that she laid the ostrich's egg by threatening to push it back inside her. Guinea fowl confesses she lied.)

H3c. Logical parrots solve inference problem[353]
(ATU/546—The Clever Parrot.)

H4. Animals and the Problem of Appearance vs. Reality

H4a. Chimps pick small grapes that look like big grapes[354]
(NFT/"Why the Fox Chases the Cock"—Fox mistakes cock's comb for fire.)(PER/253—The Dog ate an Oyster thinking it was an egg.

348. Völter and Call 2014.
349. Menzel, Premack, and Woodruff 1978.
350. Jokes4us.com 2019f.
351. Call 2006.
352. Aust et al. 2008.
353. Schloegl et al. 2012.
354. Krachun, Call, and Tomasello 2009.

He suffered greatly in his stomach due to this rash action. Dog should have thought before acting. 079—Cat and Mice. A cat came to a house with mice and started to feast. The mice hid and the cat, thinking to fool them, hung itself from a peg as a bag. Didn't work. 128—A hungry Crow flew down and grabbed a Serpent who looked dead but was alive and turned and bit him with a fatal bite. Bye, bye Crow.)

H4b. Apes know what color container is when you put a colored filter over it[355]

(TMI/J1792.1.—Dove sees painted cups of water and dashes into them.) (PER/129—A jackdaw, seeing some doves in a cote abundantly provided with food, painted himself white and joined them in order to share their plentiful maintenance. The Doves, as long as he was silent, supposed him to be one of themselves and admitted him to their coterie. But when one day he forgot himself and began to chatter, they discovered his true character and drove him forth, pecking him with their beaks. Failing to obtain food among the Doves, he returned to the Jackdaws. They too, not recognizing him on account of his color expelled him from living with them. So desiring two ends, he obtained neither. 511—An infirm Weasel tried to trick mice by rolling in flour as a disguise. An older mouse saw through the trick.)

H4c. Apes understand (after training) the workings of mirrors and shadows[356]

(AFS/22—Porcupine instructs mantis how a large shadow will signal the appearance of the All-Devourer [the man].) (CFT/"M'su Carencro and Mangeur de Poulet"—Rabbit sees chicken hawk's shadow and knows what it means. Rabbit escapes.) (TMI/J953.13.—Fox

355. Krachun et al. 2016.

356. Völter and Call 2018.

thinks his elongated shadow at sunrise makes him as large as elephant.)
[For animals understanding reflective properties of mirrors, see above, ATU/92 and below, FOB/"The Owls and the Crows."]

H5. Animal Great Escapes

H5a. Inky the octopus escapes down the drain[357] (ATU/73—Blinding the Guard. The rabbit, imprisoned in a hollow tree, induces his guard to look up at him. He spits tobacco juice into the guard's eyes and blinds the guard, and thus [a]ffects his escape.)
[see also, "J. ANIMALS AND MAGIC (SLEIGHT-OF-HAND)"]

H5b. Chimps escape from compound to freedom using fallen tree (variant: monkeys)[358]

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357. Brulliard (2016):

> Inky the octopus didn't even try to cover his tracks. By the time the staff at New Zealand's National Aquarium noticed that he was missing, telltale suction cup prints were the main clue to an easily solved mystery. Inky had said see ya to his tankmate, slipped through a gap left by maintenance workers at the top of his enclosure and, as evidenced by the tracks, made his way across the floor to a six-inch-wide drain. He squeezed his football-sized body in—octopuses are very malleable, aquarium manager Rob Yarrall told the New Zealand website Stuff—and made a break for the Pacific. "He managed to make his way to one of the drain holes that go back to the ocean. And off he went," Yarrall told Radio New Zealand. "And he didn't even leave us a message." The cephalopod version of "Shawshank Redemption" took place three months ago, but it only became public Tuesday. Inky, who already had some local renown in the coastal city of Napier, quickly became a global celebrity cheered on by strangers.

358. Primatologists have long reported on the ability of monkeys and apes to use fallen branches, trees, or similar implements to escape from outdoor zoos or research compounds (see photos of one such chimp escape in Yerkes 1943, Plate 49). Case studies can be found in Menzel (1973), McGrew, Tutin, and Midgett (1975), and de Waal (1982). I was curious if any recent incidents had captured the

(CIP/*Louisianian Creole*—"When the tree falls the kid can climb it.") (IMF/2030*K—Old woman finds coin, buys broom, makes ladder to climb to heaven. Various animals pass by, are given permission to climb with her: cat, dog, cow, ass, horse, lion, tiger, elephant. Finally, ladder breaks, old lady and animals fall.)

H6. Mediations on Animals Meditating on Gravitation [experimental paradigm variants:

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popular imagination, so I conducted a quick Google News search. Several recent episodes appeared, including "Seven Chimps Make Epic Escape from Kansas City Zoo Enclosure," "Chimp Sends Tourists Screaming in Terror as It Escapes Zoo Enclosure—Only to Peer Back in through the Glass," and "Monkeys Use Trees to Catapault Themselves Out of Japanese Laboratory." The latter was especially intriguing, as Danielle Demetriou (2010) reports:

> Monkeys at a research institute in Japan have used the branches of trees to catapault themselves over an electric fence in order to escape. A group of 15 monkeys at Kyoto University's primate research institute. . . which are the focus of a string of high-profile scientific studies, escaped from their forest home which is encased by a 17ft high electric fence. The monkeys made their bid for freedom by using tree branches to fling themselves one by one over the high voltage electric fence located nearly three metres away. However, despite the intelligence shown in their great escape, the primates appeared unsure as to what to do with their newfound freedom: the monkeys remained by the gates of the research centre and were lured back into captivity by scientists armed with peanuts. "It was an incredible escape and the first time something like this has ever happened," Hirohisa Hirai, the deputy head of the Primate Research Institute told the Daily Telegraph. "We think that maybe there was some kind of dispute among the monkeys in the forest and so this group decided to leave."

traps, tables, tubes; animal variants: apes, monkeys, dogs defy gravity][359]

(BAF/"The Fox and the Crow"—Fox throws crow into the air thinking she will fall back down. She does not.)

H7. Animal Curiosity

H7a. Rat curiosity[360]

(CIP/*Arabian*—"If the camel gets his nose in the tent his body will soon follow.")

H7b. All manner of zoo animals[361]

(ADLG/"The camel begging for horn lost its ears as well")

H8. Animals and Ambiguity

H8a. Bears vs. gorillas[362]

(ADLG/"A precipice before, a wolf behind.")

H9. Causal Reasoning

H9a. Rats do causal inference[363]

(AFS/23—Fox sees mother's wound and infers that wolf has killed her. 31—Trickster hare leads lion to supposed footprints of thieves so lion can know true thieves. 36—Caterpillar enters home of hare but hides when hare returns. Hare notices caterpillar's tracks and infers that someone is hiding.)

H9b. Animals understand the difference between correlation and causation[364]

(ATU/114—[Rooster] believes that his crowing makes the sun rise. Disappointed when it rises without his aid.)

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359. Cacchione, Call, and Zingg 2009; Hood et al. 1999; Osthaus, Slater, and Lea 2003.

360. Berlyne 1995; Billingslea 1940.

361. Glickman and Sroges 1966.

362. McGuire, Vonk, and Johnson-Ulrich 2017.

363. Beckers et al. 2006; Blaisdell et al. 2006.

364. Curious, as I am now reviewing a paper on the topic that has *me* confused about the differences between correlation and causation. Doctor Folklomindo might be interested in a similar approach in small children, see Meltzoff, Waismeyer, and Gopnik 2012.

H9c. Crows and capuchin monkeys understand unseen causal mechanisms[365]
(AFS/27—Leopard makes a trap to ensnare antelope.) (BAF/"The Lion and the Hare"—Hare notices deep footprints and understands lion is nearby. "Hawk, Heron, Tortoise and Lion"—Lion deduces heron is guilty of plucking out hawk's eyes based on heron's beak and movements.) (NAAS / "Manabozho and the Woodpecker"—Woodpecker explains that the hidden power of Manabozho's enemy is in the knot of his hair.)

H9d. Crows do NOT understand unseen causal mechanisms[366]
(FOB/"The Owls and the Crows"—Crow recounts story of how the hare fooled the king elephant into believing the Moon God was angry by having elephant wash in fountain at night. The reflected moon wavers, and because elephant does not understand reflecting surfaces, he thinks the Moon God is upset.) (IMF*138—Coyote sees the cock seize his wife, squeeze her, cause egg to come out. Coyote goes home, squeezes his own wife, but cock tells him to stop, that he will hurt her. Coyote visits his friend the bean, who beats his beanstalk and beans come down. Coyote goes home, takes a stick and beats his house, Bean tells him that he will not get beans from the house but from bean plant. Coyote goes home and sees his friend the bee. Latter strikes self with ax; honey comes out. When bee visits coyote, latter cuts himself with ax but only blood comes out. Bee tells him: You are not a bee.)

H10. Animal Essentialists (or Animals Believe in the Essences of Things)

H10a. Monkeys are not fooled when apple is covered by coconut shell[367]

365. Taylor et al. 2009; Edwards et al. 2014.

366. Taylor et al. 2014.

367. Phillips and Santos 2007.

(ADLG/"An ape is ape still, though it wear jewels of gold.") (PER/050—In a test a cat was turned into a young maiden. She found a young man and they were to be wed. At the wedding Venus released a mouse and the maiden chased it. 176—A farmer takes pity on a frozen snake and brings it home. Thawed, the snake reverts to character and bites all.)

H10b. Monkeys STILL not fooled when apple covered by coconut shell[368]
(ADLG/"Bad crow, bad egg.")(PER/351—A fawn questioned larger deer about why they flee a dog when they are so much bigger. Nobody could answer; it was just in their nature the Fawn was told.) (NAAS/"The Boy and the Rattlesnake"—Snake bites boy who helps him and then mocks boy for thinking that a snake could be anything other than a snake.)

H10c. Limits to the belief in essences in apes[369]
(ADLG/"Many a good cow hath but a bad calf.") (AFS/23—Fox plucks out his hair to deceive wolf who wants to eat him. Wolf is fooled.) (BAF/"The Fable of the Rat-king"—Rat-king asks wise men if innate fear of cats can be eradicated.)

[FOURTH SPECIAL NOTE TO DOCTOR FOLKLOMINDO, SNDF-4: *I feel myself growing weary, eyes glazing over, pushing on with nothing but my deepest belief that this will all prove worth it one day. So please (please!) know that for many of the topics that follow, my scant consideration of vast experimental literatures that have roots dating back well over a hundred years, says nothing about the nuances of human thinking about animals buried therein. Until now, I was making bold gestures toward the troves of scientific investigations that we must master;*

368. Phillips, Shankar, and Santos 2010.

369. Cacchione et al. 2016.

from here forward, I am reduced to the merest flick of my wrist or thumbing of my nose, this way or that . . .]

H11. Animals and Money[370]

(AFS/31—Hare hordes lion's money to use later.) (FTM/"The Mongoose and the Donkey"—Mongoose demands to know where girl's father keeps his money. "The Tiger's Vow"—Tiger has cave filled with gold and silver that he has horded. "The King of the Sparrows"—Cow produces golden dung that man steals. "The Snake and the Cock"—Snake hordes money in anthill. "The Lucky Buffaloes"—Buffaloes produce earthen pots of money on their horns.) (GGS/Where do fish keep their money? *In a river-bank!*[371]—How do you stop an angry tiger from charging? *Take away his credit cards!*[372]) (JSS/III.—Pig refuses to be bribed with promise of a silver door and a golden cage. XLIX.—Hog negotiates pay from rat for being a lookout.) (TMI/B294.2.1.—Monkey's money stolen. B294.2.2.—Monkey buys liquor. B294.3.—Dog sells rotten peas at market: punished by other animals.)

H12. Animals Do Math (variants: chimpanzees, monkeys, salamanders, frogs . . .)[373]

(AFS/29—Hynea is forced to count lioness's footsteps to calculate when she has crossed four rivers.) (BAF/"The Eyes of Justice"—Jackal intentionally miscounts in order to cheat sheep.) (FTC/"Why Leopard Meets

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370. Wolfe 1936; Brosnan and de Waal 2004; Evans et al. 2012.

371. *Bestfishingjokes.com* 2002.

372. Whitlock 2015.

373. For parrots, see: Pepperberg 2006; for chimpanzees, see: Biro and Matsuzawa 2001; for mockingbirds, see: Farnsworth and Smolinski 2006; for insects, see: Dacke and Srinivasan 2008; for salamanders, see: Krusche, Uller, and Dicke 2010; for monkeys, see: Beran, Perdue, and Evans 2015; and for frogs, see: Stancher et al. 2015; for other species . . . no, I choose to stop here.

His Enemy Face-to-Face [Benin]"—Leopard spies on cat getting into tree. Cat strikes a gong to let her kittens know it is safe to lower a rope. Leopards cannot count, so she uses claws to put a tally mark on tree with claws to keep track of the number of times time mother cat strikes the gong.) (GGS/ What is the owl's favorite kind of math? *Owlgebra!*[374]—How do you count cows? *With a cowculator!*[375]) (TMI/B184.3.0.5.—Herd of magic swine that cannot be counted twice with the same result.)

H13. Inhibitory Control (variants: dogs, rhesus monkeys, rats, etc. etc.)[376]

(FTC/"The Cat, the Dog, and Death [Haiti]"—Cat and dog on way to visit to plead with God. Dog wants immortality, cat does not. Both try to delay the other by placing food along the path. Cat avoids temptation of butter. Dog knows he should not stop to gnaw on bone, but he cannot control himself. Cat gets to God first and wins the petition.) (NFT/"The Tortoise and the Forbidden Porridge"—Tortoise struggles, inhibits looking in secret delicious-smelling calabash . . . until he cannot!)
[see also, "F5c. Animals Predict the Future"]

H14. Animal Memory (variants: all animals)

H14a. Elephants never forget

H14a.1. Elephants have the memory of an elephant[377]

374. Shou 2018.

375. Worstjokesever.com 2017.

376. Diamond 1990; Vlamings, Hare, and Call 2010; Homberg et al. 2007.

377. In an essay discussing his landmark studies of the memory and intelligence of a female Asian elephant, Bernhard Rensch mentions an effort to compare her performance to other animals that sounds like something straight out of an animal fable:

> Recently one of our collaborators attempted to teach the patterns that had been learned by [our] elephant to a horse, an ass and a zebra in the Münster Zoo. Some

(GGS/An elephant was drinking out of the river one day when he spotted a turtle lying fast asleep on a log. The elephant walked over and kicked the unsuspecting turtle clear across the river. A passing giraffe who happened to see this happen asked the elephant, "Why did you do that?" The elephant replied, "Because I recognized it as the same turtle that bit my trunk 38 years ago." The giraffe said, "Wow, what a memory you've got!" "Yes," said the elephant, proudly. "Turtle recall."[378])

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minor alterations had to be made in the experiments, of course, to suit them to the new animals. As we had more or less expected, the ass and the zebra could not compete with the elephant in the number of stimulus pairs learned. The ass could master only 13, the zebra only 10. But the horse, surprisingly enough, learned all the 20 pairs that the elephant had mastered. This seems to indicate that the horse possesses a very efficient visual learning capacity. We have not yet had time to compare its memory span with that of the elephant, but in a retest after three months it performed well. (1957, 49)

Earlier in the same essay, he mentions the "fantastic stories about the feats and 'cleverness' of elephants" (44).

Even so experienced an observer as J. H. Williams, who worked and lived with elephants in the forests of Burma for twenty-five years, says in his excellent book *Elephant Bill* that the elephant "never stops learning because he is always thinking." Williams reports quite seriously that domesticated elephants have been known to stuff mud into the bells round their necks to muffle them before going forth to steal bananas at night. Most of these tales credit elephants with far too much insight into the future to be believable (44).

Were Rensch still alive, he might find interest in the main FOMANCOG entry, E2e. Animals know/don't know that others hear. See also Bates et al. 2008.

378. Laffgaff.com 2019.

H14a.2. Elephants do NOT have the memory of an elephant[379]
(GGS/Why do the elephants have short tails? *Because they can't remember long stories!*[380])

H14a.3. Humans have the memory of an elephant for folktales about elephants[381]
(GGS/A man saw a baby elephant in the woods limping. Getting him to raise his leg, the man pulled a large thorn out of the baby's foot. Years later, the man was at a circus and one of the elephants kept looking at him and getting all excited. "Could it be him?" the man wondered. So the man went up to the elephant gate and the elephant reached over with his trunk. He grabbed the man with his trunk AND SLAMMED HIM AGAINST THE WALL, killing him instantly. I guess it was not the same elephant.[382])

H14b. Dolphin smarts

379. Nissani 2008; Perdue et al. 2012.

380. *Jokes4us.com* 2019e.

381. Chen, Mo, and Honomichl:
> Substantial culture-specific analogical transfer was found when American and Chinese participants' performance was compared on isomorphs of problems solved in European versus Chinese folk tales. There was evidence of transfer even among participants who did not report being reminded of the source tale while solving the target problem. Comparisons of different versions of a target problem indicated that similarity of solution tool affected accessing, mapping, and executing components of problem solving, whereas similarity of goal object had only a moderate effect on accessing. (2004, 415)

382. Al N. 2016.

H14b.1. Dolphins are super smart[383]
(GGS/Did the dolphin accidentally break the vase? *No, they do everything on porpoise!*[384])

H14b.2. No they are not[385]
(GGS/Why don't dolphins pass their exams? *Because they work below C-Level!*[386])

H14c. Honey bees with good and bad memories[387]
(GGS/What are the cleverest bees? *Spelling bees!*—Why do bees hum? *Because they've forgotten the words!*[388])

H15. Animals Do/Do Not Do Analogies
(FTFL/"The Hungry Bear"—Fox uses his tail to communicate symbolically with other animals; "up" means fight, "down" means retreat.)(MRT/"The Hunting Dog of Tomigbee Bottoms"—Dog learns analogy between train signal flag and waving of his tail. Uses his tail to stop train so he can get on and go hunting far away. Returns using same method.)

H16. Animals in Sticky Wickets Involving Weight[389]
(BAF/"The Tortoise and the Sparrowhawk"—Tortoise complains that parcel of meat is too heavy to carry. "Lion and Man"—Donkey complain of the weight of the packs that man puts of his back. "The Fly and the Buffalo"—Fly worries he is too heavy for buffalo's head.) (FOJ/"The Fish Thief"—Fox

383. For the argument in favor of the idea that dolphins are super smart and different from most other animal species, see Marino et al. (2007). See also, Bruck 2013.

384. Dr. Odd. 2019.

385. For the argument that dolphins are NOT super smart and different from most other animal species, see Manger (2013)—but cf. the obligatory hedging reply by Güntürkün (2014).

386. *Jokes4us.com* 2019d.

387. Brandes, Frisch, and Menzel 1988.

388. Jokester 2011.

389. Visalberghi and Néel 2003; Schrauf and Call 2009; Schrauf et al. 2012; see also, Povinelli 2012, Note 55.

on sled steals fish and replaces it with a stone so fisherman will notice his load is lighter.)(IMF/122*Q—Fox enters house of hen, a seamstress. He puts her in bag, starts to take her home. On the way, she cuts a hole with scissors, escapes from bag, fills it with stones. Fox arrives at home, empties bag into kettle of boiling water. He and his family are scalded, killed.)

I. ANIMALS AND MEDICINE[390]

I1. Animals and Resuscitation

I1a. Cat tries CPR to revive her dead friend[391]

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390. This is a burgeoning area of research. I recommend de Roode, Lefèvre, and Hunter (2013) and Huffman (1997, 2003) to get oriented.

391. More evidence of the anthropomorphic projective space created by online videos of animals comes from a popular YouTube video (viraldcom 2010)—with 1,212,484 views and counting—of a cat interacting with another (dead) cat that has been accidentally killed by an automobile. A sampling of viewer comments: "honestly im normaly that rock that never gets emotional or cryies but god i burst into tears thinking about this and the poeple that disliked this have no soul!" (applejuice); "That moment he stops reviving, accepts the truth and simply lays down and weeps.. that was gut wrenching to watch.. :(" (Victor B); "Cat: Hey buddy. . . . you hear me? Wake up . . . why won't you wake up..? Buddy. . . . please. . . . wake up. . . . don't leave me . . ." (Konata Izumi); "What a hero. That poor cat didn't quit on his partner until those people came and took her." (Isaac Hoffer); "that really is one of the saddest things I have ever seen. A cat . . . crying. when his eyes were closed that had to have been what he/she was feeling or doing. Just like 'come on buddy, come on, why aren't you moving, what has happened to you?' Just WOW." (john doe); "to all the people who don't treat animals as equally as humans.. . . . here's what makes them better than humans." (Yashwanth Vinod); "I am gonna find the driver and stab him to death and cut his head off and show it to the poor cat"; "PLLEEEEEEAAAASSSEEEE tell me this isn't real please tell me this isn't real!!! I'm already crying my eyes out don't make it harder!!!" (Morgan Green); "cats can't talk but they have soul :)" (Hung Nguyễn); "Animals have feeling just [like] we do. there is no difference" (Tony Illustrations).

(TMI/E79.1.—Resuscitation by passing helpful animal over corpse E79.1.1.—Resuscitation by bird flying over dead. B172.2.—Magic bird's song. Wakes the dead.)

I1b. Dog tries to resuscitate fish[392]
(TMI/B301.5.—Faithful animals resuscitate master. E53.1.—Mummified Dog is kept in box. Revives and resuscitates dead hero.)
[see also, "E1f. Dog tries to save fish"]

I2. Animals and Medication

I2a. Animals cure stomach aches, parasites, toxins, mites, poison, etc.

I2a.1. Monkeys and birds eating dirt[393]
(TMI/B512.—Medicine shown by animal.)

I2a.2. Tigers cure their parasites (variants: wild dogs, civets, jackals, tigers)[394]
(BAF/"Do Not Be Fooled Twice"—Shark needs monkey's heart as medicine for wife.)

I2a.3. Wolves cure their stomach aches[395]
(BAF/"The Goat Becomes a Pilgrim"—Goat makes amulet to cure lion's stomach ache.)

I2a.4. Bison eat bark to cure the runs[396]
(IMF/122—Coyote meets opossum who is stirring a kettle. Opossum says that he is making candles but actually he has only excrement in water. While coyote stirs kettle, opossum escapes.) (TMI/B535.0.1.1.—Bison as nurse for child.)

I2a.5. Fruit flies drink alcohol to kill parasites[397]

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392. See Note 156. Really, do see it, because it's pretty amazing.

393. Krishnamani and Mahaney 2000; Brightsmith, Taylor, and Phillips 2008.

394. Consult Table 1 in Huffman 2003. See Note 390 above.

395. Consult Table 1 in Huffman 2003. See Note 390 above.

396. Consult Table 1 in Huffman 2003. See Note 390 above.

397. Milan, Kacsoh, and Schlenke 2012.

(TMI/B511.5.1.—Vulture cures blindness.)

I2a.6. The sparrow who built her nest with high-nicotine cigarette butts to reduce mite infestations[398]
(TMI/B511.4.—Rat cures man of wound.)

I2a.7. The elephants who ingest painkillers after a long march[399]
(NFT/"The Elephant and the Tortoise"—Tortoise as physician.)

I2a.8. The red-fronted lemur eats plants for anti-parasitic properties[400]
(TMI/B191.4.—Rat gives magic medicine.)

I2a.9. The golden bamboo lemur does cyanide for liver detox[401]
(NAAS/"Why Possum Has a Naked Tail"—Rabbit tricks Possum with bad medicine.)

I2a.10. Lizards eat plant root to counter venomous snakebite[402]
(FTM/"How the Snake-Clan Began"—Crab makes snake suck venom out of dead boy so he can return to life.)

I2b. Animals and prenatal care

I2b.1. Pregnant lemurs nibble tamarin fig leaves to aid in milk production[403]
(BAF/"The Goat and the Hyena"—Goat professes to be an expert in lactation medicine.)

I2b.3. Fruit flies lay eggs in plants containing high ethanol levels

398. Suárez-Rodríguez, López-Rull, and Garcia 2013.
399. Huffman and Vitazkova 2007.
400. Peckre et al. 2018.
401. Yamashita et al. 2010.
402. Shurkin 2014.
403. Sauther 1994.

to protect babies from being killed by wasps[404]
(RFT/"Prince Ivan, the Firebird and the Gray Wolf"—Raven brings vials of death-water and life-water to wolf. Wolf sprinkles water of life on Prince to bring him back to life.)

I2c. Self-anointing monkeys

I2c.1. Titi monkey self-anoints with orchid flower[405]
(IMF/123—Rabbit mother leaves children while she goes to get yucca flowers.)

I2c.2. Capuchin monkey self-anoints with millipedes[406]
(NFT/"Why Apes Look like People"—Monkeys and apes find tortoise's secret medicine that changes animals into people and rub it on their bodies.)

I2c.3. Owl monkey self-anoints with millipedes[407]
(FOB/"The Traveller and the Goldsmith"—Snake brings man leaves which cure snakebite.)

I2c.4. Spider monkey self-anoints with millipedes[408]
(FOJ/"The Rabbit and the Bear"—Rabbit rubs miso soup on bears wounds claiming it is medicine. Ouch!)

I3. Animals and Medical Treatment

I3a. Ants treat injuries of wounded nest mates[409]

404. Kacsoh et al. 2013.
405. Souza-Alves et al. 2018.
406. Weldon et al. 2003.
407. Zito, Evans, and Weldon 2003.
408. Laska, Bauer, and Hernandez Salazar 2007.
409. Frank, Wehrhahn, and Linsenmair 2018.

(NFT/"Why the Tortoise's Shell is Cracked and Crooked"—Ant helps tortoise glue his shell back together. Tortoise complains that ants smell bad. Ants leave him to mend on his own.)

J. ANIMALS AND MAGIC (SLEIGHT-OF-HAND)

J1. Animals Do Magic

J1a. Orangutan uses magic wand to make card vanish[410]

(BAF/"The Lizard and the Chain of Events"—Tortoise as magician.)(JSS/XXXVIII.—Monkey consults dark art cards to determine whether spider is lying about stealing his crops.)(TMI/B191.—Animal as Magician. B191.1—Weasel as conjurer)

J2. Animal and Appearing/Disappearing Objects[411]

J2a. Disappearing coin trick

J2a.1. Dog duped by disappearing coin[412]

(BAF/"The Girl and the Lion"—Lion has great knowledge of magic.)

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410. The online video, "Guy Performs Magic Trick for Orangutan" (DailyPicksandFlicks 2016b) is a must-see—indeed, it has been seen 7,589,071 times. Do not be misled by the title. The orangutan uses a magic wand at end to perform its own magic trick. Sample comments: "Naww cute, how he put the card back on the glass" (CoRa Youngmin); "0:57 Orangutan: hm. Okay seems easy enough. pulls out magic wand just a few taps and it should do the job-card falls Orangutan: ._ . . . " (• Sauce •); "Human resorts to silly card tricks. ORANGUTAN HAS A WAND!! :o" (EnigmaDrath); "OMG! That orangutan used that stick like a wizarding wand! He should definitely be named 'Hairy Potter.'" (Painindeass1million); "**Orangutan**-I was told you would be coming. Grabs **Staff** I've much to teach you beyond silly illusions my son." (Doomreb); "The orangutan is not impressed. He is surrounded by things he can't explain. This is just one more." (Pat Downs); "How the hell did he get [the card] on the other side to begin with?" (MojoMaelstrom).

411. For scientists' takes on the proliferation of magical, sleight-of-hand performances for animals, see Coren 2014 and Martinez-Conde 2016.

412. "Taikuutta koirille - Magic for dogs" (Jose Ahonen 2014) 18,461,033 views.

J2a.2. Chimp duped by disappearing coin[413]
(FTM/"The Snake's Ring"—Snake gives boy magic ring and palace appears.)

J2a.3. Cat duped by disappearing coin[414]
(BAF/"The Lizard and the Chain of Events"—Tortoise as magician.)

J2a.4. Monkey threatens zoo visitor after card disappears[415]
(FTM/"The Story of Mara Kshattri"—Quail magician.)

J2b. Disappearing ball routine

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413. "Monkeys react to magic." (Techy Devin 2017) 20,149,716 views.

414. The video "Cat Mind Blown!" (Cole and Marmalade 2016) depicts a pet cat watching its owner set a coin on a wooden box, followed by a mechanical paw emerging from the box and stealing the coin. The video then zooms in of the pet cat's face. It has been watched 1,088,432 times. Here are a few sample comments: "So cute he was like: Wtf was that? 0_0 'realizes camera pointing at him' uuuhhh hi?" (I); "That was the cutest 24 seconds of my entire life."(.); "Did you see that?! There is a tiny cat trapped in that box!!"(er-mub); "Vietnam Flashback" (Zea); "wow, I'm a grown man, who is a contractor in afghanistan on my 4th deployment, this is the highlight of my day" (Brian K).

415. The YouTube video, "Baboon is Amazed by Man's Magic Trick" (America's Funniest Home Videos 2016) has received 4,383,399 views. Here are some sample comments: "You could make a religion out of this" (CJusticeHappen21); "he probably faked the reaction just so he didnt hurt the mans feelings" (Bob The Peach); "Amazing how intelligent they are. They understand object permanence." (Mark M); "I love how you can literally tell his train of thought. 'oh yes, another human. Yeah you've got a paper in your hand, yes I can see it you can stop waving it arou-SHUT UP!!!!! WHAT?!!! oh my g-AND THERE IT IS AGAIN!!! Okay, okay, that was pretty cool, and—YOU DID IT AGAIN!!!!!'" (Annette maple); "00:01 'What do you want.' 00:02 'Go away.' 00:05 'YOOOOOOOOO!!!!!!!!'" (NumPad).

J2b.1. Orangutan duped by disappearing cup-in-ball routine[416]
(BAF/"The Girl and the Lion"—Bird puts curse on woman.)

J2b.2. Dog tricked by fake ball toss[417]
(BAF/"The Elephant and the Hare"—Lizard magician.)

J2c. Zoo animals and the disappearing carrot (variants: cow, horse, goat, llama, fish, tortoise, geese . . .)[418]
(FTM/"The Story of Mara Kshattri"—Quail magician.)

J2d. Suddenly appearing objects

J2d.1. Ape startled by magician pulling flowers from sleeve
(FTM/"The Bear and the Guitar"—Bear plays magic guitar; boy kills bear and steals guitar.)

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416. If you want to understand what is at stake with anthropomorphism, this one is an absolute must see: "Orangutan Finds Magic Trick Hilarious" (Simply Fit 2015), 2,345,583 views.

417. "Funny Fake Throwing Ball on the Swimming Pool with the Funny Dog" (5loaves2fish1962 2011), 2,577 views.

418. "How Different Animals React to Magic?" (Jose Ahonen 2015) 742,354 views. Sample comments: "The goats were like: 'we don't need yo magic!'" (Lunar Aurora); "do it with a shark" (Craig K); "Thee Alpacas are quite the intelligent looking creatures" (Randy); "the alcapas went on a nope train." (The Humble Geometric Figure of Doom); "good way to lose a finger :p" (Jackie Johnson); "I felt so sorry for the horses and the cows.. They were nibbling his fingers xD" (Rhiannn :3); "Oh this is too great! I like the one alpaca who was like 'It's a trap! RUN!'" (HijackedGiraffe); "Didn't really expect much reaction from animals that rely more on smell and touch to find food rather than sight. Predators, primates, birds of prey and parrots would likely have much better reactions." (Elizabeth Ludwig); "It was a Pony not a Donkey maybe a Mule but no donkey" (Diestro Energy); "They're pretty much all just going 'The food is gone? Alright.'" (Monody); "Omg the goats XDDD My stomach hurts!" (SUY Inès); "can you try it with dolphins or elephants ?" (Kytetiger).

J2d.2. Cat stares at appearance of magic stick[419]
(GGS/What do you call a cat who does tricks? *A magic kit!*[420])

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[NOTE TO FUTURE SELF:

Woe, woe, O Future Me,
Don't judge your past self too harshly.
Gone is my beginner's steam—
Folklore research needs a bigger team!
Hear my plaintiff, lonely moan,
I've not the chops to go it alone!
cf. "E10.f. Chimps prefer to go it alone."]

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J3e. Dogs baffled by disappearing-owner trick (a.k.a. blanket trick)[421]
J3e.1. German Sheppard baffled

419. "Cat is Confused by its Owner's Magic Trick" (1Voice1life 2016)

420. Momo J Pug. 2017.

421. I have launched an informal investigation into the internet based #WhatTheFluffChallenge. If you do not know of it, I recommend you pour yourself a glass of whiskey and spend the next several hours (at least) watching as many of the hundreds (thousands?) of videos that have been posted in response to this viral internet challenge. For now, let me simply say that it is described as a "game" in which a human pet owner films themselves getting their animal's attention (frequently dogs and cats, but many other species as well) as they hold a sheet in front of their bodies. The pet owners then quickly drop the sheet as they duck behind a doorway or couch. The performance creates the illusion (folk illusion?) that the person has vanished. Based on the multitude (and I do mean multitude) of videos that have been created and posted, and the millions and millions of views they have received, I have ended my investigation with the interim conclusion that humans find this "game" very amusing. For one of many compilation videos, see "Best 'What the fluff'

J3e.2. Huskie baffled
J3e.3. Poodle baffled
J3e.4. Pitbull baffled
J3e.5. Pug baffled
J3e.6. Dalmatian baffled
J3e.7. Cocker spaniel baffled
J3e.8. Labrador baffled
J3e.9. Beagle baffled
J3e.10. Retriever baffled
J3e.11. Terrier baffled
J3e.12. Chow-chow baffled
J3e.13. Bulldog baffled
J3e.14. Heeler baffled
J3e.14.a. Heeler humps blanket
J3e.15. Cat (not dog) baffled
[*Et cetera*]

K. AESOP'S FABLES
K1. Crow and Pitcher[422]
K2. Hare and Tortoise[423]
K3. Grasshopper and the Ant[424]
K4. Lion and the Donkey[425]
K5. [X] and the [Y][. . .]

[NOTE TO SELF: *Check with Doctor Folklomindo as to the canonical number of Aesop's fables and all known variants and how they are indexed in ATU and TMI . . .*]

Challenge Videos Ever | What the fluff Challenge compilation! Part 18" (Dogs Are Awesome 2018), 574,456 views.

422. Hennefield et al. 2018.

423. "The story of 'The Tortoise and the Hare' came to life when the two animals were placed side by side to race each. As expected, the rabbit started off strong but laid back towards the middle of the event and watched as the tortoise slowly, but surely, win the race" (DailyPicksandFlicks 2016a).

See also "Tortoise Races Hare, Guess What Happens," (USA Today 2017) 81,321 views.

424. Smith 2015.

425. Future scientific study to be included in forthcoming updates of the FOMANCOG.

L. CULTURE AND TRADITIONS IN ANIMALS
- L1. Great Ape Traditions[426]
- L2. Norway Rat Traditions for Food Choice
  - L2a. Cayenne pepper food traditions[427]
  - L2b. Cinnamon flavored food traditions[428]
- L3. Brown-Headed Cow-Bird Courtship Traditions[429]
- L4. Guppy Traditions[430]
- L5. Fruit Fly Traditions for Egg-Laying Sites[431]
- (and et cetera)

[FIFTH AND FINAL CONCLUDING SPECIAL NOTE TO DOCTOR FOLKLOMINDO, SNDF-5: *The following are some miscellaneous groups of motifs running through the study of animal cognition that frequently animate the discussion. Perhaps they should be considered for inclusion in future revisions of the FOMANCOG.*]

M. ANIMALS AND THE QUEST TO KNOW WHO IS THE SMARTEST
(BAF/"The Jackal and the Cat"—Jackal boasts he is the most intelligent animal. "The Tortoise and the Elephant"—Elephant flattered as most intelligent animal. Winds up as king's dinner meat. "The Drought"—Elephant is wisest; knows where water is closest to surface.) (TMI/J1662.—[Cat] saves herself on a tree. The fox, who knows a hundred tricks, is captured. J461.8.—Elephant and ape debate about superiority. Owl gives them task neither can perform and ends futile debate.)

N. ANIMALS WHO TRAIN OTHER ANIMALS
(BAF/"Do Not Be Fooled Twice"—Monkey trains shark with fruit.) (IMF/113*C—Cat invites hungry mouse to eat cheese that his master left on table. Mouse goes back to his hole, tells, other mice, who go next day, eat more cheese. Cat tells other cats. When mice come again, cats lie in wait, eat mice.)

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426. Biro, Sousa, and Matsuzawa 2006.
427. Galef and Aleen 1995.
428. Galef and Aleen 1995.
429. Freeberg 2004.
430. Reader, Kendal, and Laland 2003.
431. Battesti et al. 2012.

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Authorship Note

K. Brandon Barker and Daniel J. Povinelli contributed equally to the creation of this index. They are deeply thankful for the careful and thorough assistance they received from Marisa Wieneke and Kristina Downs. Without their hard work and valuable contributions—creating the references section, clarifying the footnotes, and formatting the Appendix as a whole—this Appendix and Doctor Fomomindo's FOMANCOG would never have seen the light of day.

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