

NONHUMAN ANIMALS AND EPISTEMIC INJUSTICE

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OVER THE LAST DECADE, animal ethics has undergone what is now typically referred to as a “political turn.” While animal ethicists have in the past touched upon political questions with regard to animals, much of the scholarship in the field has focused primarily on questions concerning the subjects of ethical consideration, how nonhuman animals do or do not fit within the ambit of moral consideration, and how individuals ought to conduct themselves in practical-moral matters in view of the moral standing of nonhuman animals (e.g., vegetarian or vegan diets, nonhuman animal trials in medical research, cohabitation with companion species). While there is no clean break between work concerned with these questions and work that is considered part of the political turn (note, for instance, that Peter Singer’s work has deep political implications), the political turn has rather marked an increased emphasis on matters such as political representation, political agency, state justice, sovereignty, and other issues typically considered by political theorists and political philosophers. Put differently, it is a turn toward a sustained consideration of “how political institutions, structures and processes might be transformed so as to secure justice for both human and non-human animals.”¹ More specifically, some theorists have turned to discussing not just how nonhuman animals are affected as outsiders that we need to take into consideration in our deliberations, but toward attempts to develop frameworks for their formal inclusion as members of our political communities.² Whether nonhuman animals need to be included in our epistemic communities has largely been unaddressed.

For decades, some animal activists and theorists have engaged with analyses of other forms of oppression to think through the normative status of nonhuman animals, ranging from ecofeminist approaches analyzing the relationship between women and nonhuman animals to engagements with multiculturalism,

1 Cochrane, Garner, and O’Sullivan, “Animal Ethics and the Political,” 264.

2 See Donaldson, “Animal Agora”; Donaldson and Kymlicka, *Zoopolis*; Driessen, “Animal Deliberation”; Kymlicka and Donaldson, “Inclusive Citizenship Beyond the Capacity Contract”; and Meijer, “Interspecies Democracies” and *When Animals Speak*.

intersectionality, race, and disability.³ Inspired by such efforts, this paper proposes that the application of the concept of epistemic injustice in animal ethics can be fruitful for determining how our actions negatively affect nonhuman animals as knowers. Epistemic injustice has its roots in feminist social epistemology and focuses on the role that unjust social relationships and institutions play in shaping an individual's or group's ability to know or participate in knowledge production, as well as determining who qualifies as a legitimate knower. Its emphasis, however, has been on analyses of distinctively human epistemic communities, and has had little engagement with other beings who may plausibly be knowers. To be sure, nonhuman animals and other beings in general often can and do play a role in human knowing, but they normally play the role of facilitator or tool for the human knower, such as in the use of dogs by law enforcement for the purposes of detecting contraband or as model organisms in scientific research.⁴ The general question of whether nonhuman animals themselves can be victims of epistemic injustice has not been taken up.⁵ I take up this question by connecting this work with animal cognition and animal ethology, and I argue that groups of nonhuman animals can be subject to epistemic injustice.

First, I lay out some of the key considerations of Miranda Fricker's conception of the nature of harm that I wish to circumvent: that an individual or a group must be aware of themselves as knowers and invested in being recognized as such to suffer epistemic injustice. Second, I shift the discussion of the nature of the harm of epistemic injustice away from Fricker's focus to instead consider harmful consequences that result from the disruption of the apportionment of epistemic resources for epistemic communities. Third, I complicate the picture Fricker proposes in two ways: (1) I highlight that knowledge often has an inextricable practical dimension, and so in these cases the practical cannot be cleaved from the epistemic in order to treat such cases as "incidentally" epistemic in nature, and (2) I show how skill or know-how as a kind

3 For ecofeminism, see Adams, *The Sexual Politics of Meat*; Gaard, *Ecofeminism*; Plumwood, *Feminism and the Mastery of Nature*; and Warren, "The Power and Promise of Ecological Feminism." For work exploring race, multiculturalism, intersectionality, and disability, see Boisseron, *Afro-Dog*; Deckha, "Animal Justice, Cultural Justice" and "Toward a Postcolonial, Posthumanist Feminist Theory"; Kim, *Dangerous Crossings*; Nocella, Bentley, and Duncan, *Earth, Animal, and Disability Liberation*; and Taylor, *Beasts of Burden*.

4 A model organism is a nonhuman species studied with the aim that data and findings from this study will apply across taxa and enable us to understand a broader range of biological processes. I will note, however, that an increasing number of animal researchers have come to see nonhuman animals as collaborators in knowledge production.

5 Exceptions include Tuvel, "Epistemic Injustice Expanded"; Podosky, "Hermeneutical Injustice and Animal Ethics." The question is also raised, though not discussed, by Catala, "Metaepistemic Injustice and Intellectual Disability."

of knowledge possessed by nonhuman animals circumvents the recognition requirement for epistemic injustice. Complicating this picture allows us to consider a form of epistemic injustice suffered by groups of nonhuman animals even if we grant that they lack the robust mental capacities to be aware of and invested in being recognized as a knower. This form of epistemic injustice can be understood as negative downstream effects on nonhuman animals' ability to acquire "answers" to "questions" they have an interest in answering: namely, acquiring true beliefs about conspecifics and their environment, acquisition of behaviors and skills that enable everyday successful coping, and accumulation of information for the distributed cognition involved in group decision-making.⁶ Fourth, and finally, I provide some examples from work in animal cognition and animal ethology to consider mechanisms for how epistemic injustice occurs for nonhuman animals as a result of direct and indirect consequences of human action. I consider research on elephants and ungulates to make the case.⁷ For elephants, I note the detrimental impact of poaching on elephants' ability to survive droughts and defend themselves from attack. In the case of ungulates, groups that migrate over long distances rely on older conspecifics to learn when and where to travel for grazing purposes (and so have their practical goals bound up with acquisition of (arguably cultural) beliefs and skills for successful navigation), as well as to provide information for decision-making in cases of disagreement or uncertainty. The removal of experienced conspecifics who serve as repositories of knowledge, however, can disrupt all of these efforts and constitute a form of epistemic injustice.

1. THE HARM OF EPISTEMIC INJUSTICE

Fricker's *Epistemic Injustice* details two forms of epistemic injustice: testimonial injustice and hermeneutical injustice. Briefly: testimonial injustice is an

- 6 This list represents the epistemic resources I have chosen to focus on for my argument, but it does not exhaust the epistemic resources that nonhuman animals have an interest in or ways of knowing they may be capable of (e.g., nonhuman animals may also be interested in acquiring true beliefs about interspecifics and/or predators). Additionally, though they lie outside the scope of this paper, I believe fruitful investigations could also be carried out exploring the connection between nonhuman animals and feminist work on embodied knowledge, affect, and tacit knowledge, to name a few.
- 7 In this paper, I only focus on wild animal communities, though I believe similar arguments can be made for the epistemic communities of domesticated animals or liminal animals (wild animals that nevertheless live among human beings). Though this may initially seem to extend beyond the interests I have listed for the "political turn" in animal studies, wild animals can be treated as sovereign communities. See Donaldson and Kymlicka, *Zoopolis*, ch. 6.

injustice suffered by virtue of being subject to a credibility deficit as a result of an identity prejudice manifested as a pernicious stereotype.⁸ This pernicious stereotype is systematic in that it tracks them across various dimensions of social life.⁹ Hermeneutical injustice occurs when a subject lacks the conceptual resources to properly understand their own experience or effectively communicate it to another subject.¹⁰ The former injustice is perpetrated by subjects, while the latter injustice is not, but occurs as a consequence of broader structural issues (it does, however, most often make itself apparent in interactions between individuals).

Given the differing causal patterns of each form of epistemic injustice, Fricker also characterizes the nature of the harm caused by each form of injustice differently. The primary harm caused by testimonial injustice is one of epistemic objectification: testimonial injustice fails to acknowledge the speaker's full status as a knower or informant, and treats them instead as a source of information.¹¹ Hermeneutical injustice, in turn, is characterized as a situated hermeneutical inequality: "their social situation is such that a collective hermeneutical gap prevents them in particular from making sense of an experience which it is strongly in their interests to render intelligible."¹²

These two forms of injustice also cause secondary harms, both practical and epistemic. For testimonial injustice, there can obviously be negative practical consequences as a result of one's testimony not being believed, e.g., one's claims to being a victim of theft may not be believed by one's community and result in one never recovering one's valuables. Epistemically, one may come to question their certainty in the truth of their testimony or belief, and as a result come to lose knowledge. For hermeneutical injustice, there are also negative practical consequences that result from being unable to properly conceptualize and communicate one's experience: as Fricker's example of sexual harassment shows, the failure to communicate these experiences prior to the development of the concept of sexual harassment meant that the harassee was not able to communicate the need to change the climate at her workplace, and was also

8 Fricker, *Epistemic Injustice*, 4.

9 Fricker, *Epistemic Injustice*, 27. Though not clear in *Epistemic Injustice*, in later work Fricker affirms that testimonial and hermeneutical injustice must be unintended, though this does not mean that the perpetrator is not culpable. See Fricker, "Evolving Concepts of Epistemic Injustice," 54–55.

10 Fricker, *Epistemic Injustice*, 7.

11 Fricker, *Epistemic Injustice*, 133.

12 Fricker, *Epistemic Injustice*, 7.

unable to provide good reason for seeking unemployment assistance once the harassment became unbearable.¹³

However, despite these being two different kinds of injustice with differing etiologies, Fricker's account of the primary harms caused by testimonial and hermeneutical injustice goes deeper, and reflects a concern with one's self and self-conception as a knower. Both forms of injustice, for Fricker, affect "the very construction (constitutive and/or causal) of selfhood."¹⁴ Drawing on Bernard Williams's work, Fricker argues that testimonial injustice compromises the psychological work that subjects perform to "steady one's mind" and solidify a sense of self.¹⁵ Hermeneutical injustice, in turn, can lead to someone being unable to understand who they are, or "can mean that someone is socially constituted as, and perhaps even caused to be, something they are not, and which it is against their interests to be seen to be."¹⁶

This deeper exploration of the primary harm of these two forms of injustice seems to close the door on the possibility of nonhuman animals being victims of epistemic injustice. While nonhuman animals can certainly, in a sense, be seen as merely sources of information, it is not clear that they can be subject to an injustice given that there is significant skepticism over whether nonhuman animals are concerned with the work of "steadying the mind" and solidifying a sense of self. While an animal can certainly exhibit anger or annoyance toward a human or a conspecific, it is doubtful that they are invested, whether aware or not, in being recognized as a knower for the purposes of their own self-conception and self-construction. Fricker claims that

to be wronged in one's capacity as a knower is to be wronged in a capacity essential to human value. When one is undermined or otherwise wronged in a capacity essential to human value, one suffers an intrinsic injustice. . . . The capacity to give knowledge to others is one side of that many sided capacity so significant in human beings: namely, the capacity for reason.¹⁷

Animals may be recognized as knowers, but they do not possess (and cannot come to possess) the investment in the value of being recognized as a knower.

Hence, on Fricker's account, animals cannot suffer from the primary harm of epistemic injustice. It does seem that they can suffer secondary harms from

13 Fricker, *Epistemic Injustice*, 162.

14 Fricker, *Epistemic Injustice*, 168.

15 Fricker, *Epistemic Injustice*, 52–54.

16 Fricker, *Epistemic Injustice*, 168.

17 Fricker, *Epistemic Injustice*, 44.

epistemic injustice, in that they can suffer both practical and epistemic harms. The practical harms should be clear: for instance, animals that perform attention-drawing behavior for the sake of drawing attention to a competitor (or predator) may suffer injury or loss if their attempt to inform or draw the attention of others is ignored. Secondary epistemic harms may be instantiated in cases in which human beings prevent or impair an animal's actions and behavior that contribute to its social and cognitive development and acquisition of information or knowledge. The difficulty, however, is that Fricker's account of the two forms of epistemic injustice she considers requires testimony and a robust perspective on one's self as a knower. "Killjoy" attitudes toward nonhuman animals displaying attention-drawing behavior may accept that they have some form of intentional agency, but they can still deny that the animal has a subjective experience of themselves and that their behavior provides testimony of that experience, just as a thermostat is not treated as providing testimony on the current temperature; the animal's behavior and the thermostat are both sources of information, and not informants.¹⁸ While ethologists and philosophers have argued for accounts of self-consciousness that admit of degrees and that nonhuman animals inhabit a broad range of this continuum, it is not clear whether any nonhuman animals today are capable of self-consciousness to the degree necessary for investment in oneself and interest in being *recognized as a knower* such that they can suffer epistemic injustice as outlined above.¹⁹ Additionally, there are many influential philosophers who argue against ascribing various mental capacities such as propositional content, concepts, or metacognition to nonhuman animals, and they argue that these all require language.²⁰ Rather than fight this uphill battle against the killjoys to establish nonhuman animals as having these mental capacities in the same way and to the same degree as human beings, I suggest that we can remain agnostic on the matter.²¹ In the case of belief, we can rely on a liberal form of dispositionalism that seeks merely to describe the logic of belief attributions without committing ourselves to any claims about actual mental capacities or attempting to reduce mental

18 "Killjoy" is a term used to refer to researchers who deny mental capacities to nonhuman animals that we typically consider characteristically human. For its origin, see Dennett, "Intentional Systems in Cognitive Ethology."

19 For examples in ethology and philosophy of self-consciousness on a continuum, see de Waal, "Fish, Mirrors, and a Gradualist Perspective on Self-Awareness"; and DeGrazia, "Self-Awareness in Animals."

20 For prominent examples, see Dummett, *The Nature and Future of Philosophy*; Stich, "Do Animals Have Beliefs?"; Brandom, *Making It Explicit*; and Davidson, "Thought and Talk."

21 There is, of course, a large literature on representationalist accounts of belief in nonhuman animals that do not require propositional content nor language, but since my argumentative strategy does not make use of it, I will not discuss it further.

activity to behavior.²² This allows us to consider forms of epistemic injustice that fall outside the scope of testimonial and hermeneutical injustice and do not require robust mental and linguistic capacities. By remaining open to the possibility of other forms of epistemic oppression, we can work toward avoiding what Kristie Dotson refers to as “contributory injustice.”²³

Contributory injustices are “caused by an epistemic agent’s situated ignorance, in the form of willful hermeneutical ignorance, in maintaining and utilizing structurally prejudiced hermeneutical resources that result in epistemic harm to the epistemic agency of a knower.”²⁴ Fricker’s account of hermeneutical injustice assumes that both the perpetrator and the victim lack the necessary concepts for the victim to understand or communicate their experience, but this is not always so; marginalized communities may develop their own hermeneutical resources for understanding their experiences, and these resources may not be shared with the broader society. Beyond that, these communities may have the hermeneutical resources necessary for understanding their experiences but fail to achieve uptake from others outside of these communities. In cases of contributory injustice, the perpetrator exhibits willful hermeneutical ignorance, which is “a willful refusal to acknowledge and to acquire the necessary tools for knowing whole parts of the world.”²⁵

In the case of nonhuman animals and epistemic injustice literature, contributory injustice occurs because we limit the scope of epistemic injustice to propositional knowledge and conceptual resources: we are concerned with whether a subject knows a particular proposition or whether they possess a certain concept, but we fail to account for nonpropositional forms of knowing, particularly skill. This second-order form of epistemic injustice leads to first-order epistemic injustice: the fact that we do not recognize animals as knowers (specifically, as skilled individuals) leads to epistemic injustice and harm against nonhuman animal communities, irrespective of their capability to be invested in being recognized as knowers. Fricker herself characterizes the harm of testimonial injustice as infringing upon one’s status as a knower, in that being wronged as a being capable of giving knowledge to others is to be

22. Dispositionalism is the view that to talk about someone’s belief is to talk about the subject’s likelihood to act or feel in a certain way such that it corresponds to or characterizes the belief. For examples, see Marcus, “Some Revisionary Proposals about Belief and Believing” and “The Anti-Naturalism of Some Language Centered Accounts of Belief”; and Schwitzgebel, “A Phenomenal, Dispositional Account of Belief.”

23. Dotson, “A Cautionary Tale.”

24. Dotson, “A Cautionary Tale,” 31.

25. Pohlhaus, “Relational Knowing and Epistemic Injustice,” 729.

wronged as a being capable of reason.²⁶ While the capacity for reason may be indispensable for some forms of epistemic injustice, Carol Adams warns that these kinds of commitments may hide morally relevant details about beings other than humans, and that “aspects of animals’ lives and their experience of oppression may remain invisible because of a dominant metaphysics that views animals instrumentally and accepts a value hierarchy.”²⁷ In order to avoid committing this contributory injustice, we can draw from two main areas: feminist social epistemology and distributive accounts of epistemic injustice.²⁸

2. EPISTEMIC COMMUNITIES AND DISTRIBUTIVE EPISTEMIC INJUSTICE

In paying attention to the social and material aspects of knowing, feminist social epistemologists look at individual knowers as embodied, gendered, and situated spatially, socially, and historically. Beyond being simply individually situated knowers with particular standpoints who encounter each other, they have also argued that interpersonal experience and webs of relations between individuals are necessary prior to one being a knower.²⁹ As a result, philosophers like Lynn Hankinson Nelson have argued for the recognition of communities as the primary agents of epistemology.³⁰ This is not to deny that individuals do not know; rather, it is to claim that “the knowing we do as individuals is derivative, that your knowing or mine depends on *our* knowing, for some ‘we.’”³¹

Feminist philosophers have drawn out the relational and derivative status of individuals in human communities. As Annette Baier notes, a “person, perhaps, is best seen as one who was long enough dependent upon other persons to acquire the essential arts of personhood. Persons essentially are *second* persons, who grow up with other persons.”³² Lorraine Code expands on Baier’s analysis to establish our development into epistemic agents as reliant on the presence of other knowers: “in epistemic activity, ‘personal’ knowledge depends on common knowledge. Even the ability to change one’s mind is learned in a community that trains its members in conventions of criticism, affirmation,

26 Fricker, *Epistemic Injustice*, 44.

27 Adams, *Neither Man nor Beast*, 145.

28 This is not to deny that Fricker’s account captures something about at least some forms of epistemic injustice; rather than present an account that captures the nature of the wrong of all forms of epistemic injustice, I will instead assume a pluralist account of these wrongs.

29 For instance, see Code, *What Can She Know?*; Hankinson Nelson, *Who Knows*; Haraway, “Situated Knowledges”; and Longino, *Science as Social Knowledge*.

30 Hankinson Nelson, “Epistemological Communities.”

31 Hankinson Nelson, “Epistemological Communities,” 124.

32 Baier, *Postures of the Mind*, 84.

and second thinking.”³³ Given that many nonhuman animals are reliant on older and experienced conspecifics, their status as epistemic agents is reliant on and derivative of the epistemic agency of these conspecifics who serve as repositories of knowledge.

The need for rich epistemic relations with experienced conspecifics does not end upon reaching maturity or acquiring a particular skill. Nonhuman animals also rely on conspecifics for collective decision-making through distributed cognition. Here again, the feminist lens is key: feminist philosophy of science and social epistemology provides us with the tools to meaningfully consider the effects of social and material conditions on individual knowers and enables us to take a structural perspective on the dynamics of an epistemic community. Feminist (naturalized) epistemology also helps us characterize the wrong of epistemic injustice in terms of the harmful consequences that follow from the social and material conditions in which epistemic communities function. Drawing on, critiquing, and expanding on Quine’s naturalized epistemology, feminist naturalized epistemologists have emphasized social, political, and historical factors that play a role in determining what we as individuals and communities know or do not know.³⁴ For instance, in contrast to the individual epistemic subject that she finds in Quine’s work, Lorraine Code argues that her account of a feminist naturalized epistemology incorporates insights from ecology and “builds on the relations of organisms with one another and with their habitat, which comprises not just the physical habitat or the present one, but the complex network of locations and relations, whether social, historical, material, geographical, cultural, racial, sexual, institutional, or other, where organisms—human or nonhuman—try to live well, singly and collectively.”³⁵ Through feminist naturalized epistemologies, we can focus on what is at stake both epistemically and practically in cases of epistemic injustice and elaborate an account concerned with the distribution of epistemic goods, the negative effects of acquiring false beliefs, failing to acquire true beliefs, and taking up norms that do not tend toward acquiring knowledge.

Of course, this is not to say that epistemic injustice does not pay attention to social, political, and historical factors; what I have said earlier of Fricker’s work alone makes clear that epistemic injustice is tightly connected to structural forms of injustice. What I wish to highlight here is an emphasis on the conditions that affect the distribution of true beliefs, opportunities for the

33 Code, *What Can She Know?* 83–84.

34 See Quine, “Epistemology Naturalized.” For examples of feminist naturalized epistemology, see Hankinson Nelson, *Who Knows*; Antony, “Quine as Feminist”; Campbell, *Illusions of Paradox*; and Code, *Ecological Thinking*.

35 Code, *Ecological Thinking*, 90–91.

development of skills, and the flow of information between individuals, rather than the interactions between individuals that are central to Fricker's work and much of the epistemic injustice literature. David Coady persuasively argues for the existence of distributive epistemic injustice, which focuses on the just distribution of epistemic resources.³⁶ Though distributive epistemic injustice as a distinct form of epistemic injustice has been acknowledged by Fricker and others, it has been under-theorized.³⁷ However, we can draw from Coady's discussion of Alvin Goldman's veritistic social epistemology for thinking about distributive epistemic injustice and animal communities. As Coady notes, for Goldman, "intrinsically valuable true beliefs are the answers to the following kinds of questions: first, questions the agent happens to find interesting, second, questions the agent would find interesting if he or she had thought of them, and third, questions that the agent has an interest in having answered."³⁸ In the case of nonhuman animals, the "questions" they have an interest in "answering" involve acquiring true beliefs about conspecifics and their environment, behaviors and skills that enable everyday successful coping, and information for the distributed cognition involved in group decision-making. Since many intensely social nonhuman animals do not acquire these answers in isolation but in and through a community, special attention should be paid to the social and material consequences of these epistemic harms and what role aspects of the epistemic community and its institutions play in their prevention or perpetuation. For instance, Elizabeth Anderson has argued for the importance of social institutions in correcting for epistemic injustice.³⁹ Utilizing an analogy between epistemic justice and distributive justice, she argues that individual attempts by virtuous epistemic agents to address epistemic injustice are inadequate, and that structural epistemic injustice requires changing our social institutions: "the larger systems by which we organize the training of inquirers and the circulation, uptake, and incorporation of individuals' epistemic contributions to the construction of knowledge may need to be reformed to ensure that justice is done to each knower, and to groups of inquirers."⁴⁰ Anderson's point can be expanded

36 Coady, "Two Concepts of Epistemic Injustice."

37 Fricker proposes "discriminatory epistemic injustice" in order to distinguish her previous work from distributive epistemic injustice. See Fricker, "Evolving Concepts of Epistemic Injustice," 53. For recent work on distributive epistemic injustice in science, see Irzik and Kurtulmus, "Distributive Epistemic Justice in Science."

38 Coady, "Two Concepts of Epistemic Injustice," 103. The focus on intrinsically valuable true beliefs is important; otherwise, one could simply commit oneself to memorizing a phone book as a quick way of increasing the amount of one's true beliefs.

39 Anderson, "Epistemic Justice as a Virtue of Social Institutions."

40 Anderson, "Epistemic Justice as a Virtue of Social Institutions," 165.

to consider how social institutions can influence the distribution of epistemic resources. As a result, social institutions can influence the development of epistemic individuals and the epistemic community as a whole. Here, bringing distributive epistemic injustice together with feminist social epistemology allows us to cast the concern with the distribution or access to information and education (among other epistemic goods) as distinctively epistemic and ethical, and as falling under the ambit of epistemic injustice.⁴¹ For my purposes this is enough, though it is important for my account that it not be merely limited to interesting true belief, but that the account also incorporates know-how or skill. Doing so allows us to see how nonhuman animals can experience epistemic injustice with regard to their skills and their opportunities to acquire epistemic goods without having to take a perspective on oneself as a knower.

3. EPISTEMIC GOALS, PRACTICAL GOALS, AND KNOW-HOW

Christopher Hookway, in considering Fricker's account, notes that individuals "can be victims of epistemic injustice without making assertions and claims to knowledge, and without suffering from conceptual impoverishment."⁴² A single parent may, for instance, be unable to secure reliable childcare that would enable them to attend university or engage in other epistemic activities. Hookway notes that one could push back on this example and say that it is only an "epistemic injustice" insofar as the parent's goal is epistemic, but that the wrong suffered by the parent is not intrinsically an epistemic wrong because it could just as easily impede the parent in engaging in nonepistemic activities, such as going on a much-needed social night out with friends.⁴³ Access to reliable childcare for parents is not constitutive of being engaged in epistemic activities (and, of course, caring for one's child as an activity can itself lead to acquisition of knowledge of various sorts). But Hookway notes that what is useful about considering this kind of example is that "it reminds us that much of the time our engagement with the epistemic involves participation in goal-directed activities, not just in making assertions, communicating information, or using our conceptual resources to formulate problems and propositions."⁴⁴

For instance, student engagement in the classroom can involve the student asking a question, not because she is puzzled and is seeking an answer from the instructor, but for the purpose of contributing to the discussion and helping

41 Coady, "Two Concepts of Epistemic Injustice," 105.

42 Hookway, "Some Varieties of Epistemic Injustice," 152.

43 Fricker, *Epistemic Injustice*, 1; and Hookway, "Some Varieties of Epistemic Injustice," 154.

44 Hookway, "Some Varieties of Epistemic Injustice," 155.

it move forward in some direction. Instructors, in turn, can fail on the uptake of such a move: they may either dismiss the question as irrelevant, or misunderstand the student's question as simply requesting information from the instructor. A similar dynamic can be observed in interactions within research teams on what directions their research should take or what hypotheses should be explored.⁴⁵ The ignored student or researcher is recognized as an informant and an agent interested in acquiring knowledge, but they are not recognized as a collaborator who can contribute to knowledge production. The student and researcher are not making any knowledge claims, nor do their efforts serve as stage-setting for making any in the classroom or to their collaborators.⁴⁶ Nevertheless, the activity is epistemic in character while bound up with goal-directed activities. Beyond one's ability to direct discussion and investigation, however, this allows us to see how epistemic injustice can interact with know-how.

Epistemic injustice with regard to know-how functions differently than epistemic injustice as discussed by Fricker in terms of testimonial and hermeneutical injustice. Both of Fricker's types can be described as concerned with propositional knowledge, or knowing that-p. When we rely on another person's testimony for that-p, we have to rely on various social markers to reasonably infer whether they really know that-p. Testimonial injustices can occur here when we unfairly attribute a credibility deficit based on the social markers we use to infer whether they will provide reliable testimony. This is evident in examples where one treats an individual as untrustworthy because of a pervasive prejudice against his group identity or identities. Know-how can work differently, however: Katherine Hawley notes that, in cases of testimony, social identity can serve as a marker for an upstream indicator of knowledge.⁴⁷ That is, we can take social identity as an indicator of whether someone is likely or unlikely to know that-p, or whether they are reliable or trustworthy, on the basis of having a particular social identity. For know-how, we can rely on social markers to inform us on whether to trust that this person possesses the appropriate know-how, but in some cases we can also rely on downstream indicators of knowledge. These downstream indicators are often not constituents of knowledge, but consequences of it. Thus we can often treat successful action as

45 Here as well, feminist philosophers of science have contributed to the literature concerning scientific practice, knowledge, and values, though primarily with regard to securing objectivity in science, both at the level of the individual and the community level. See for example Harding, "Rethinking Standpoint Epistemology" and "Strong Objectivity"; Keller, *A Feeling for the Organism* and *Reflections on Gender and Science*; Longino, *Science as Social Knowledge*; and Okruhlik, "Gender and the Biological Sciences."

46 Hookway, "Some Varieties of Epistemic Injustice," 156.

47 Hawley, "Knowing How and Epistemic Injustice."

best explained by the possession of skill or know-how, and we can rely on the “deliverable” itself.⁴⁸ For example, let us say you and I plan to go for a hike in the Rockies, but we will each have to get there on our own, and it is a bit of a drive. Your successful drive to meet me for a hike in the Rockies is good evidence for me to believe that you know how to get to the trailhead in the Rockies by car. In this case, I do not need to rely on social markers like your race or gender as evidence that you really know how to drive to the trailhead. Your successful arrival is not constitutive of your know-how, but a consequence of your know-how.

Of course, this does not mean that know-how cannot be subject to some form of epistemic injustice. Epistemic injustice with regard to know-how occurs in various situations and can employ the same prejudices Fricker is concerned with. For example, the success of a racialized minority at a task or position in a professional field can be unfairly attributed to luck, instinct, or affirmative action, and not their training and skill. However, epistemic injustice with regard to know-how comes apart from testimonial injustice in another way. In the case of testimony, the speaker stands in relation to the listener as an informant. For Fricker, the wrong of testimonial injustice is that it fails to treat the speaker as an informant, and to some extent treats them merely as a source of information. In the case of know-how, though, this need not be the case. While I can ask you to demonstrate your know-how, I do not necessarily have to do so. I can simply observe and treat you as a source of information. I can learn and gain knowledge from you by observing and emulating you, without you intending for me to learn, or even without you knowing I am observing and emulating you.⁴⁹ Even in this latter instance, where you have no knowledge of being observed, treating you as a source of information does not necessarily result in my harming you by treating you as a source of information for the completion of a task or display of skill. But given the previously mentioned instances of epistemic injustice with regard to know-how, such as attributing success to luck, it can occur in these circumstances as well as those in which the performer is not aware of the injustice and does not even have some inchoate feeling of a wrong suffered.⁵⁰

This suggests that one does not need to take a perspective on their own knowledge and be invested in being seen as a knower in order to suffer from an epistemic injustice. If we extend this thought across species, all that would

48 Hawley, “Knowing How and Epistemic Injustice,” 293.

49 Hawley, “Knowing How and Epistemic Injustice,” 296.

50 An individual may also fail to recognize when they have learned from observing another individual’s know-how or undervalue it, and erroneously attribute all of the epistemic agency to themselves and fail to see they have learned this from someone else. I thank Lisa Guenther for this point.

be needed to consider that an animal can be subject to an epistemic injustice is an attribution of an intentional perspective (so that we believe that they act with goals or ends) without the animal having to care about being recognized as a knower *qua* rational being. For know-how, the knower does not need to (or even be able to) care about being recognized as a knower to suffer an epistemic injustice. Furthermore, though there are holdouts, many people (philosophers included) tend to believe that animals know how to do at least some things. This is especially the case for those of us who have observed animals solving problems. And, trivially, we sometimes do not want them to solve certain problems, and take steps to prevent them from learning how to do so (think of dog-proofing shelves or cabinets). All this opens the door for extending these considerations of epistemic justice to nonhuman animals who lack these capacities for reflection, given that they can acquire know-how, or be prevented from doing so. With that, I now turn to discussing how animals, as situated individuals and as members of communities, can suffer from this form of epistemic injustice that infringes upon their know-how.

4. ANIMAL CULTURES AND EPISTEMIC INJUSTICE

Despite dissenting arguments from behaviorists and other researchers in comparative psychology who hold to Morgan's Canon, animal ethologists have become more and more willing to claim that nonhuman animals may have not just sophisticated cognitive behavior, but social behavior as well.⁵¹ While dissenters warn of anthropocentrism, primatologists and philosophers have in turn warned against what they have called "anthropodenial" or "anthropotomy," understood as errors or refusals to acknowledge the qualities or abilities some nonhuman animals possess that we consider markers of the human (and markers of the animal in humans).⁵² One question considered by ethologists and philosophers is whether there is evidence of the possession of culture by intensely social nonhuman animals.⁵³ Increasingly, this question is answered

- 51 Morgan's Canon is a precept that cautions against positing complex humanlike psychological explanations for animal behavior that can be explained without such posits. For further discussion, see Steward, "Morgan's Canon."
- 52 De Waal, "Are We in Anthropodenial?"; and Andrews and Huss, "Anthropomorphism, Anthropotomy, and the Null Hypothesis."
- 53 The reader may expect a definition of culture. Kroeber and Kluckhohn collected 164 unique definitions of culture sixty-eight years ago, and that number has continued to grow for human cultures alone; see Kroeber and Kluckhohn, *Culture*. Grant Ramsey notes that, within the animal-cultures literature, cultures are typically defined "in terms of outcomes like traditions or group typicality." For the purposes of this paper, I will use Ramsey's definition: "Culture is information transmitted between individuals or groups, where this

in the affirmative for a variety of animals.⁵⁴ My concern, however, is how the possession of culture by nonhuman animals makes them vulnerable to epistemic injustice along the lines considered above. That is, how an account of epistemic injustice that focuses on the social and material conditions in which epistemic communities function can make sense of epistemic injustice suffered by animal communities.

There is substantial evidence from ethology showing that animals depend on input or interaction from their environment (including conspecifics) in order to acquire certain skills, and can have their long-term behavior shaped in a variety of ways by their conspecifics. While some behaviors can be reliably considered innate, others are triggered by specific environmental inputs (or lack thereof) and are important for ontogenetic and developmental purposes. Cultural behaviors differ from both, but should be especially carefully distinguished from the latter kind. Innate behaviors are reliably expressed regardless of hyper-specific environmental input (trivially, all behaviors require some environmental input in the form of nutrition, among other things). For example, rats, regardless of whether they are allowed to socialize or kept in isolation from birth, will construct similar nests, and so this behavior can be reliably considered innate.⁵⁵ However, if female rats are prevented from licking their own genitalia while pregnant, they will reliably eat their young after giving birth. This second form of behavior can arguably be said to be elicited or enabled by outside input. That is, resources from outside of the genome allow for this complex behavior encoded in the genome to be expressed under standard conditions.

Cultural behaviors cannot be explained away in such a manner, due to their uptake and performances being contingent, yet nevertheless sometimes having survival value.⁵⁶ For instance, a subset of a population of bottlenose

information flows through and brings about the reproduction of, and a lasting change in, the behavioral trait" ("What Is Animal Culture?," 346, 348).

54 See Andrews, *The Animal Mind*, ch. 8; Brown, "Animal Traditions"; Cantor, Shoemaker, Cabral, et al., "Multilevel Animal Societies Can Emerge from Cultural Transmission"; Galef and Aleen, "A New Model System for Studying Behavioural Traditions in Animals"; Goodrich, "Varieties of Culture"; Huffman and Quiatt, "Stone Handling by Japanese Macaques (*Macaca fuscata*)"; Meynell and Lopez, "Gendering Animals"; Ramsey, "Culture in Humans and Other Animals"; Sapolsky and Share, "A Pacific Culture among Wild Baboons"; van Schaik, Ancrenaz, Borgen, et al., "Orangutan Cultures and the Evolution of Material Culture"; Whitehead and Rendell, *The Cultural Lives of Whales and Dolphins*; and Brakes, Dall, Aplin, et al., "Animal Cultures Matter for Conservation."

55 Lehrman, "A Critique of Konrad Lorenz's Theory of Instinctive Behavior," 342.

56 The capacity to be sensitive to adopting behaviors and practices of conspecifics itself likely confers survival advantages, but no one behavior adopted need do so.

dolphins has been found to use marine sponges as foraging tools to find food.⁵⁷ This form of social learning has been most reliably traced as skill transmission from female parent to offspring, though males rarely engage in the practice, even if their female parent teaches them; “sponging” dolphins in almost all cases are females. This behavior is unique, however, in that it is exhibited most strongly within a particular matriline, and persists despite the fact that sponging dolphins live among other dolphins who do not sponge and regardless of whether the sponging females mate with the small number of sponging males. In other words, this practice and preference for sponging over other methods of acquiring food is reliably passed “from mother to daughter,” with inconsistent uptake “from mother to son.” Sponging stands out here, not just because of the manipulation of materials as a form of tool use, but because the behavior does not spread to the rest of the population and instead remains a form of cultural diversity within the population.⁵⁸

However, studying animal cognition and ethology among a variety of species clearly would (often, though not always) depend on their species-typical capacities, and an organism’s cognitive complexity may be expressed along various axes. With that in mind, I turn to considering the transmission of information and acquisition of behavior among intensely social nonhuman animals, specifically on the transfer of know-how and decision-making among communities of elephants and ungulates.

We can consider two examples that display the harms both to individual animals and to their communities at large: elephants and bighorn sheep. African elephants in the wild must often deal with the environmental danger of drought.⁵⁹ Elephant calves, in particular, are most vulnerable to perishing as a result of dehydration and lack of food during droughts. Research on calf survival rate has found that the mortality rate for calves was higher among younger mothers, likely due to their lack of experience of their environment and strategies for dealing with danger. However, calves and females, unlike males, are not solitary animals. Rather, calves and females tend to live in clans. Calf survival rate was positively correlated not just with the age of the calf’s mother, but with the presence of older females, or matriarchs, in the clan. Matriarchs serve as “repositories of socially transmitted knowledge,” in that they have years of expe-

57 Krützen, Mann, Heithaus, et al., “Cultural Transmission of Tool Use in Bottlenose Dolphins”; Krützen, Kreicker, MacLeod, et al., “Cultural Transmission of Tool Use by Indo-Pacific Bottlenose Dolphins (*Tursiops* Sp.) Provides Access to a Novel Foraging Niche.”

58 Krützen, Mann, Heithaus, et al., “Cultural Transmission of Tool Use in Bottlenose Dolphins,” 8943.

59 Foley, Pettolelli, and Foley, “Severe Drought and Calf Survival in Elephants.”

rience and knowledge of seasonal changes, as well as prior success in handling droughts and leading others through them.

These matriarchs have knowledge beyond a “map” of sorts, however; they also possess knowledge of strategies for dealing with danger. Other researchers found that clans with older matriarchs were on average more successful at fending off attacks by lions.⁶⁰ Importantly, these clans were also more skilled at successfully discriminating the roars of female lions from male lions. Given the significant size difference between female and male lions, defending against male lions as a group requires different strategies by elephants than defending against female lions. Once again, the presence of an older matriarch correlated positively with successful defenses against attacks by male lions. Success and efficiency also increased over time, as younger elephants benefited from the knowledge and skill of the matriarchs by following their lead and eventually picking up the knowledge and skill themselves. Given the importance of older matriarchs for this dissemination of know-how among younger elephants, one clearly infers the consequences and harms suffered by clans who do not have these knowledgeable members. Clans who, over the years, had lost older members to ivory poaching performed statistically worse with regard to both calf survival in droughts and defense against male and female lions.

Recent research that brings together movement ecology with collective behavior and collective motion highlights the importance of both social behavior within the group as well as the importance of particular individuals within the group, with much of the research focused on modeling heterogeneity, social interaction, and information flow within groups.⁶¹

Variation in cognition can influence how individuals respond to and communicate about their environment, which may scale to shape how a collective solves a cognitive task. Interactions among individuals that differ in the performance of a cognitive task can drive collective foraging behavior. The collective motion of ungulate groups can also depend on or be influenced by particular individuals in the group. For instance, among caribou, older and more experienced individuals are typically thought to hold informal leadership positions and guide migration-scale movements; however, pregnant or nursing

60 McComb, Moss, Durant, et al., “Matriarchs as Repositories of Social Knowledge in African Elephants.”

61 For examples, see Jolles, King, and Killen, “The Role of Individual Heterogeneity in Collective Animal Behaviour”; Riotte-Lambert and Matthiopoulos, “Environmental Predictability as a Cause and Consequence of Animal Movement”; Strandburg-Peshkin, Papageorgiou, Crofoot, and Farine, “Inferring Influence and Leadership in Moving Animal Groups”; Torney, Lamont, Debell, et al., “Inferring the Rules of Social Interaction in Migrating Caribou”; Westley, Berdahl, Torney, and Biro, “Collective Movement in Ecology.”

females may guide movements toward habitats with better forage opportunities.⁶² Leadership in these groups is flexible, and can involve position within the group, influence, or information flow.⁶³

Individuals within groups play an important role in fusion-fission dynamics that are part of collective motion, as groups do not always agree about when and where to go, all of which are affected by influence, leadership, genetic predispositions, life experiences, and species, among other factors.⁶⁴ Unique migratory portfolios (i.e., the variation in migratory behaviors across space and time among individuals within populations) arise out of these dynamics, with native populations having more diverse portfolios, restored populations having less diversity, and augmented populations being somewhere in between.⁶⁵ In particular, while all three types of populations exhibit various levels of movement in terms of elevation, significant differences are found for geographic migration, with native populations exhibiting greater range.

For instance, among bison, research suggests that bison tend to associate with conspecifics that possess spatial knowledge different from their own, and that what individuals know and what others know influences their patch decisions.⁶⁶ In instances of conflict or disagreement, however, the bison use group familiarity combined with their own knowledge and recent experiences to decide whether to follow or leave a group.

Bighorn sheep are also highly sensitive to the presence of older and more experienced conspecifics. Ecologists have recently confirmed a long-standing hunch that bighorn sheep and other ungulates like moose, sheep, and bison rely on the social transmission of knowledge to effectively migrate hundreds of kilometers at certain points of the year.⁶⁷ This view is supported by the fact

62 Garland, Berdahl, Sun, and Boltt, "Anatomy of Leadership in Collective Behaviour," 2.

63 Garland, Berdahl, Sun, and Boltt, "Anatomy of Leadership in Collective Behaviour"; Strandburg-Peshkin, Papageorgiou, Crofoot, and Farine, "Inferring Influence and Leadership in Moving Animal Groups."

64 Berg, Hebblewhite, St. Clair, and Merrill, "Prevalence and Mechanisms of Partial Migration in Ungulates"; Sawyer, Merkle, Middleton, et al., "Migratory Plasticity Is Not Ubiquitous among Large Herbivores."

65 Lowrey, Proffitt, McWhirter, et al., "Characterizing Population and Individual Migration Patterns among Native and Restored Bighorn Sheep (*Ovis canadensis*); Lowrey, McWhirter, Proffitt, et al., "Individual Variation Creates Diverse Migratory Portfolios in Native Populations of a Mountain Ungulate." Note: Native populations are populations endemic to a region. Restored populations are populations that have been reintroduced into a region from which they had disappeared. Augmented populations are populations that have had individuals introduced to reinforce currently present populations in the region.

66 Merkle, Sigaud, and Fortin, "To Follow or Not?"

67 Jesmer, Merkle, Goheen, et al., "Is Ungulate Migration Culturally Transmitted?"

that populations of ungulates that were reintroduced to certain habitats did not migrate, unlike the previous inhabitants of these territories. However, over several decades and generations, ecologists found that these ungulates began to migrate, and their skill in doing so improved over time. In order to successfully migrate, bighorn sheep need to know not just where to go, but when to go—experience and knowledge are crucial for successfully moving along over time at a pace and direction such that vegetation is present at that point in time and that it is relatively young for easier grazing or foraging, in a phenomenon called “green-wave surfing.”⁶⁸ Bighorn sheep that had several generations of experience with these territories and migratory patterns surfed more efficiently than transplanted individuals. Over time, however, knowledge and skill in surfing was disseminated to transplanted individuals, who steadily improved their surfing and began using the same paths as members of the historical population.

Research on mammals has found that migratory mammals are more likely to increase annually compared to their nonmigratory conspecifics, and it is possible that “the vagility of migratory mammals could aid their ability to escape anthropogenic threats in areas where non-migrants would have more difficulty moving territories.”⁶⁹ But bighorn sheep and other ungulates can still be vulnerable to the loss of this knowledge. Rapid anthropogenic climate change, as well as habitat destruction as a result of human development, can have a negative impact on their knowledge practices, and “the reliance of collectively navigating species on inter-individual cues can also result in cascading consequences when one individual makes a mistake. . . . Increasing anthropogenic change could result in greater potential for mistakes and greater cost to collective migrants.”⁷⁰ Climate change can have the deleterious effect of changing the “green-wave” schedule by which vegetation grows (if it grows at all), which could create scenarios in which bighorn sheep arrive too early or too late.⁷¹ In sum, disruption of their communities and their environments compromises their successful transmission of know-how among their conspecifics. Know-how is lost, and so they suffer epistemic harms, which compromises their ability to cope and survive, and so they also suffer practical harms. As a result, bighorn

68 Aikens, Mysterud, Merkle, et al., “Wave-like Patterns of Plant Phenology Determine Ungulate Movement Tactics.” Note, the green wave hypothesis may not apply to all ungulates, as some research suggests that bison do not follow it yet have an impact on the green wave itself; see Geremia, Merkle, Eacker, et al., “Migrating Bison Engineer the Green Wave.”

69 Hardesty-Moore, Deinet, Freeman, et al., “Migration in the Anthropocene,” 7.

70 Hardesty-Moore, Deinet, Freeman, et al., “Migration in the Anthropocene,” 7.

71 Aikens, Mysterud, Merkle, et al., “Drought Reshuffles Plant Phenology and Reduces the Foraging Benefit of Green-wave Surfing for a Migratory Ungulate”; and Cremonese, Filippa, Galvagno, et al., “Heat Wave Hinders Green Wave.”

sheep, among other species, suffer a form of epistemic injustice, given that they are prevented by direct and indirect human action from acquiring both true beliefs about conspecifics and their environment, as well as acquisition of behaviors and skills that enable everyday successful coping. These injustices are difficult to correct as well, given the time required for the vertical transmission of knowledge among generations of ungulates. Jesmer, Merkle, Goheen, et al. note that

restoring migratory populations after extirpation or the removal of barriers to movement will be hindered by poor foraging efficiency, suppressed fitness, and reduced population performance. Thus, conservation of existing migration corridors, stopover sites, and seasonal ranges not only protects the landscapes that ungulates depend on; such efforts also maintain the traditional knowledge and culture that migratory animals use to bolster fitness and sustain abundant populations.⁷²

There is a possible debate concerning the status of these behaviors as emblematic of culture: not all social learning need rise up to the level of being an example of culture. In any case, scientists invested in conserving the diverse group-specific behavior seen in animal populations have found this diversity threatened by humans.⁷³ However, we can sidestep this debate by focusing on the behaviors being transmitted from one individual to another as an instance of the acquisition of know-how, and examining how the compromise of this acquisition by human interventions (broadly) constitutes epistemic injustice. Various behaviors and practices (such as those discussed previously) that serve as candidates for the possession of culture in animals have an impact on reproduction and survival. Conservation biologists have recently made the case that cultural preservation ought to be part of the mission of conservation precisely because of this impact.⁷⁴ They note that some conservation programs have failed “by neglecting key repositories of socially transmitted knowledge.”⁷⁵ By failing to preserve these “key repositories” or by actively disrupting them, human beings negatively affect the transmission of know-how between intensely social animals, which results in significant secondary harms. The harms suffered by these animals are epistemic, given that they fail to acquire a skill through mimicry, and practical, because of the downstream

72 Jesmer, Merkle, Goheen, et al., “Is Ungulate Migration Culturally Transmitted?” 1025.

73 Kühl, Boesch, Kulik, et al., “Human Impact Erodes Chimpanzee Behavioral Diversity”; van Schaik, “Fragility of Traditions.”

74 Brakes, Dall, Aplin, et al., “Animal Cultures Matter for Conservation.”

75 Brakes, Dall, Aplin, et al., “Animal Cultures Matter for Conservation,” 1032.

consequences of lacking the aforementioned skills. For animals, the epistemic and the practical are not separable, given that these skills are deployed in goal-directed activity. Failure to achieve these goals can be disastrous.

5. CONCLUSION

In this paper, I have considered the question of epistemic injustice in the case of nonhuman animals, and have attempted to argue that they can in fact suffer from this form of injustice. I have done so by shifting the focus of discussion to the nature of the harm of epistemic injustice and considering the harm through a feminist lens. Doing so, I argue, allows us to see how the distribution of epistemic goods is negatively affected by human action in a way that compromises the acquisition of information and know-how for nonhuman animals. Whether I succeed in doing so or not, part of my aim here has also been to highlight the lack of discussion in recent epistemic injustice literature on ways of knowing other than propositional knowledge. With few exceptions, such as Katherine Hawley or Alexis Shotwell, much of the literature on other ways of knowing that has its roots in feminist philosophy and other philosophies has been sidelined.⁷⁶ A consideration of these other ways of knowing enables us to see how epistemic injustice can affect them as well, and can shine light on who experiences this epistemic injustice. In “Land as Pedagogy,” Leanne Simpson writes about gratitude for the teachings of animals like squirrels, and the knowledge they can pass on to us.⁷⁷ While we can learn much from other animals, my aim here has been to show concern for what they can learn from each other and what they can know for themselves.⁷⁸

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76 See Hawley, “Knowing How and Epistemic Injustice”; Shotwell, *Knowing Otherwise* and “Forms of Knowing and Epistemic Resources.”

77 Simpson, “Land as Pedagogy.”

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