OUTLINE FOR A METAPHYSICS OF CAUTION:
AN ANALYSIS OF THEORECTICAL WORK ON ANIMAL MINDS

By

Samantha Noll

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

Philosophy—Doctor of Philosophy

2016

ABSTRACT

OUTLINE FOR A METAPHYSICS OF CAUTION:
AN ANALYSIS OF THEORECTICAL WORK ON ANIMAL MINDS

By

Samantha Noll

The amount of research on non-human animals has grown exponentially over the last fifteen years, with philosophers bringing unique insights to questions concerning duties owed to non-human animals (ethics) and animal capabilities (metaphysics), such as if animals possess reason or use concepts. The two fields focused on the later questions are animal metaphysics and post-humanism. This dissertation project is firmly situated at the nexus between ethics and metaphysics, as it grapples with the fundamental metaphysical frameworks that form the foundations of philosophical work on animal minds and draws connections between this work and the application of ethics in human-animal contexts.

The purpose of this dissertation is to further develop an outline for what I call a "metaphysics of caution" or the practice of being attentive to potentially harmful assumptions and biases that could be incorporated into theories of animal capabilities. While work in animal metaphysics and post-humanism has remained theoretical, theories coming out of these schools inform applied philosophical branches and help guide human action towards non-human others. For this reason, we need to be careful when exploring such questions, as this work has real world implications. Specifically, this dissertation 1) explores how work on animal capabilities is influenced by metaphysical, normative, and epistemological assumptions and 2) draws upon feminist philosophy of science to illustrate how this school of thought can help address issues of bias. The project of critiquing animal metaphysics and post-humanism is an important first step, as it helps us to identify commitments that could bias theories of animal capabilities.

PREFACE

The morning is crisp, grass brittle and breaking under foot, as I make my way to the field. The sun is just coming over the horizon, apricot hues reflecting off hoop-house roofs, dew hanging from the fine wires used to fence in the pigs, electricity flowing through the filaments. I step over this line and they rise, knowing that it's breakfast time. The bronze haired bodies of nine durocs catching the morning light, as they walk over to rub their sides along my legs and greet me with a touch of snout and a snort. As I lay out the food bowls and measure out a portion of their daily grain, the rooster and hens fly over to pick at the morning meal, sometimes landing on the backs of the pigs, turning their heads to the left and right, watching me as I work. This is an example of animals and workers calmly greeting the day with the act of sharing food and company, if only for a moment. It is a typical morning at the Michigan State Student Organic Farm and other small scale integrated farming operations. Experiences like this, working with animals and workers in a myriad of agricultural settings, formed the genesis for this dissertation.

This dissertation is only a piece of a much larger project that should be at least cursorily discussed here, as it places this work in context. The larger project explores how ontological, metaphysical, and normative assumptions are built into the fabric of multispecies contact sites (from inside the human body to the wilderness), larger agricultural systems, and even in the bodies of the plants and animals that we use for food or companionship. It digs at the roots of ethical questions, exploring how historical context, lived experiences, relationships, and past conceptions inform behavior (both "ethical" and not) towards other workers, animals, and ecosystems in agricultural production and beyond. Farming contexts are complex, as each system, practice, and animal that forms the web of current operations comes with its own history

iv

and is continually evolving.

For example, the durocs above are scavengers, like humans, and thus able to eat many different types of food. We evolved together for thousands of years. Their ancestors would root in our middens and, up until the 1800s, feed off of the garbage in our streets. They came with the Romans to the west and with the colonists and conquistadors over the seas. They sparked riots in New York, served as "piggy banks" for excess grain in good years, and were hunted down during the Civil War by Yankee solders. Even today, wild boars are hunted in California and the fear of these pigs influences current policy, as they did with colonial fence laws. This is the same fear that resonates in Odysseus' tale of how he was scarred by a boar and this is only one of the histories that informs my morning chores outlined above, as well as various animal husbandry practices, the shape of human/pig relationships, and what we consider "good" behavior to be regarding these animals. Indeed, families in the Appalachians used to trade their pigs just before slaughter, as it was considered unethical to eat your own pig. It was "better" to eat a stranger, they reckoned, than a member of your household.

The example of doing my chores above touches on each of these threads. For instance, the pigs are fed grain and fattened with leftover apples and other "garbage" from the compost, mimicking past feeding patterns. They are kept in a fence, instead of being allowed to roam the country-side, as was the custom after changes during the colonial period. They are raised in the country, rather than on city streets. They greet me with the same body language that they use with their own species, recognizing a long history of human-pig cohabitation. Humans and farm animals emerge from webs of entanglements, are supported in this world by these relationships, and then pass away. Life, death, and consumption are all wrapped up in these relations with a multiplicity of other creatures and ecological communities (Haraway, 2008). As Dooren (2014)

so eloquently writes regarding birds, "these are relationships of co-evolution and ecological dependency... It is inside these multispecies entanglements that... social practices and cultures are formed. In short, these relationships produce the possibility of both life and any given way of life" (p. 4). It is in these complicated entanglements, these webs, that we, as ethical and social beings, attempt to distinguish right action from wrong action. Thus part of being an engaged ethicist is this project of archaeology, where we work to better understand the histories and often taken for granted metaphysical, ontological, and normative commitments that guide our actions.

When viewed from a position where such digging is necessary, ethics moves away from the simple act of applying ethical theories to on the ground issues, as the process of ethical thinking must be done within these rich contexts, formed by various commitments that have histories of their own. Indeed, applying seemingly unproblematic ethical theories, such as utilitarianism and rights based approaches, to multispecies zones, such as farming contexts, could actually cause more harm than good, as the application could potentially undermine the relationships between different life-forms and the ecological dependency that forms the heart of such systems. For example, using these theories to advocate vegetarian diets glosses over the fact that farm animals are necessary in certain farming systems, as they add fertility to the soil, and that more animal suffering and/or death could be the result of switching to vegetable-exclusive systems. Farms are, by their very nature, places of life and death. Thus the question is not whether or not we should kill other beings (be those plant, animal, or embryo), as killing is an essential part of farming and eating. Rather, paying attention to the complicated entanglements of these contexts prompts new kinds of ethical questions— questions such as the following: What kinds of ethical relationships are possible in farming systems? What are the best forms of agriculture or animal husbandry for all species involved? What do we mean by "best" here? Can

we practice an ethic of care in an environment where death is always the outcome?

Placed in this larger project, the purpose of this dissertation is to continue to develop the theoretical foundation for exploring these entanglements and thus for doing engaged philosophy in multispecies contact zones, as it provides an analysis of philosophical theories on animal capabilities used in agriculture, animal ethics, and a wide array of other literatures. Like farming contexts discussed above, ontological, metaphysical, and normative commitments are built into the fabric of our scientific and philosophical work on non-human animal cognition— work that forms the premises of arguments used in agricultural policy, animal ethics, and in defenses of the treatment of non-human others in a multiplicity of contexts. For example, my understanding of porcine cognition, capabilities, and needs directly influences the way that I interact with the pigs on the farm. If I think that pigs are "wild" creatures prone to violence, then I may never enter their pen. If I think pigs are simplistic creatures, then I may think that water nozzles may be an appropriate form of enrichment for pigs in confined animal feeding operations. If I think that pigs have a high tolerance for pain due to some biological reason, then I may find that using an electric prod might be the best way to load them into the truck for slaughter. I may even think that my actions are ethical or "best" practices, as they may not be recognized as violations of various prohibitions, such as causing unnecessary suffering. In this way, work on animal cognition and the ethical theories that make use of this work directly influence on the ground interactions with non-human others... interactions, such as those that we experience every day in farming systems and in the world around us.

For this reason, we must be particularly careful when crafting theories of animal capabilities. It is this "care" that I want to bring to scientific work on animals, philosophy of animal minds, and the ethical arguments that draw from this deeper theoretical bedrock. The

project of metaphysical and ontological archaeology, where we work to better understand the histories and often taken for granted commitments in our theoretical frameworks, is necessary for navigating the complex and messy multispecies contact zones that form the contexts where ethical theories are applied. If we do not do this work, then we may very well smuggle in speciesist assumptions harmful to the larger projects of crafting and implementing an animal ethic that is respectful of all parties involved, be those human or non-human. While this dissertation is only the first step to achieving such a "metaphysics of caution," taking the time to properly critique theories and develop methodologies (sensitive to bias) for current work on animal minds is the first step towards a non-speciesist ethic and thoughtfully navigating the shared world around us, like the farm during morning chores.

The morning is crisp, grass brittle and breaking under foot, as I make my way to the field. The sun is just coming over the horizon, apricot hues reflecting off hoop-house roofs, dew hanging from the fine wires used to fence in the pigs, electricity flowing through the filaments. I step over this line and they rise, knowing that it's breakfast time. The bronze haired bodies of nine durocs catching the morning light, as they walk over to rub their sides along my legs and greet me with a touch of snout and a snort. Our eyes meet and I know that they see me differently than I see them but we are still connected in this ritual. Our relationship, shared and distinct behavior, and even this farm emerges from webs of entanglements, as life, death, and eating our daily bread are wrapped up in relationships with a multiplicity of other animals... animals, such as the pigs that look back at me, this cold fall morning, so near harvest time.

TABLE OF CONTENTS

Chapter 1: Outline for a Metaphysics of Caution

Over the last thirty years, current debates on the "animal question" have gained significant attention in both academic and public circles. First, there has been growing attention to questions concerning what ethical duties, if any, humans have to non-human animals. Second, philosophers have become increasingly interested in questions concerning animal capabilities, such has whether or not non-human animals have mental states or feel pain. While work on the first type of questions remain firmly situated in ethics, the fields of animal metaphysics and post-humanism have largely taken up the latter questions. This dissertation project is firmly situated at the nexus between ethics and metaphysics, as it grapples with the fundamental metaphysical frameworks that form the foundations of philosophical work on animal minds and draws connections between this work and the application of ethics in human-animal contexts.

As discussed in the preface, the purpose of this dissertation is to further develop an outline for what I call a "metaphysics of caution" or the practice of being attentive to potentially harmful assumptions and biases that could be incorporated into theories of animal capabilities. While philosophy of mind has remained predominantly theoretical, it informs applied philosophical branches and helps guide human action towards non-human others (Petrus and Wild, 2013). For this reason, we need to be particularly careful when exploring questions concerning animal capabilities, as this work has real world implications. Specifically, this dissertation 1) explores how the products produced and methodologies used in such work are influenced by metaphysical, normative, and epistemological assumptions and 2) draws upon feminist philosophy of science to illustrate how this field can help address issues of bias. The

project of properly critiquing the two philosophical schools wrestling with epistemic and metaphysical issues concerning animals is an important first step, as it helps us to identify commitments that could bias theories of animal capabilities.

Thus this dissertation presents a two-fold argument. First, as philosophy of animal minds cannot escape the incorporation of assumptions and there are potentially harmful consequences of this work, I argue that we need to determine whether and to what extent philosophical frameworks are distorting these theories in ways that privilege humans. This is the focus of the first three chapters of this dissertation, including the majority of this chapter. Second, I go on to argue that feminist philosophy of science could help in the following ways: 1) it could help determine whether philosophical models and frameworks used in philosophy of animal minds are distorting results in ways that privilege humans, 2) help address various weaknesses of the different schools of thought exploring these questions, 3) provide opportunities for these schools to work together, and 4) contribute to the project of developing value informed methods of inquiry and philosophical frameworks. This second argument is largely presented in chapter four of the dissertation.

The aims of this chapter include the following: Situating the project in the larger literature, describing the contribution of this project to the literature, and providing a general outline of various types of assumptions that could be incorporated into work on animal capabilities. More specifically, the first two sections provide a detailed description of the connections between work on animal ethics and animal capabilities, while the latter section draws upon the work of Charles Mills (2005) to explore potentially problematic assumptions that could be incorporated into work on animal capabilities. Finally, this chapter ends with a brief overview of each chapter of the dissertation, describing how each one fits into the larger project.

It is my hope that chapter one provides a clear introduction to the larger dissertation project.

1.1 Situating the Dissertation Project in Current Literature

As briefly discussed above, one of the most common branches of philosophy that addresses questions concerning animals can be placed under the umbrella of ethics, as current philosophers often focus on outlining what ethical duties, if any, humans have regarding non-human others. Indeed, a popular strategy in this branch is the application of ethical theories, such as utilitarianism (Singer, 2009) and rights based approaches (Regan, 2004), to animal questions (Oliver, 2009). Such work, especially in animal liberation and animal rights, has been highly influential beyond the academy (Petrus and Wild, 2013). A second branch not identified above that deals with ethical problems concerning animals is environmental philosophy. This field largely developed during the 1960s-70s (Brennan and Lo, 2011) and historically focused on addressing a limited set of abstract questions, such as whether or not nature (and the nonhuman communities that make up "nature") have intrinsic value (Light and Wellman, 2003; Light, 2001). As Light and Wellman (2003) argue, environmental philosophy largely focused on valuing or recognizing ethical duties towards ecosystems or communities of non-human others (see Callicot, 1999) in contrast to theorists who focused on attributing value to individual animals (p. 4).[1] While this dissertation largely focuses on questions concerning individual animals, the final chapter illustrates how being sensitive to metaphysical commitments can contribute to work in environmental ethics.

The third branch of philosophy addressing animal topics focuses on animal minds or answering key metaphysical questions (such as "what kinds of minds do animals have?") and

---

[1] It's important to note here that there is currently interesting work being done in environmental philosophy on valuing individual animals, such as that by Palmer (2003; 2011) and Michelfelder (2003).

epistemological questions (such as "how do we know what kinds of minds animals have?"). Two distinct schools emerged in this branch, each with their own strengths and weaknesses: Animal metaphysics and Post-humanism. The first school comes out of the analytic tradition (Lurz 2009) and primarily focuses on obtaining a more accurate account of the mental life of non-human animals. This school includes work by Dennett (1996), Carruthers (2004), Allen and Bekoff (1997), Bermudez (2009), and other theorists drawing on philosophy of mind, traditional epistemology, philosophy of science, and philosophy of language. Several theorists working in this area are committed to a connection between knowledge claims regarding animal capabilities and human ethical duties towards non-human others (see Jamieson, 2009 and Dennett, 1996). As a result of this connection, theorists in the analytic tradition have taken up the challenge of better understanding animal thought and there is now a plethora of work on animal capabilities.

The second school of philosophy focusing on animal capability questions is "post-humanism." The majority of post-humanist literature is rooted in post-structuralism and builds on or critiques the work of Continental philosophers such as Derrida, Levinas, and Lacan. While there are major differences in post-humanist theories, one primary point unifies this work: Post-humanists juxtapose themselves against the humanist project. Humanism is, roughly, a philosophical tradition first appearing in Renaissance Europe that focuses on the study of the human subject and the identification of features intrinsic to "man," such as rationality, agency, and authority (Nayar, 2014). According to post-humanists (and other fields), this concept of human was linked to a universal form of morality, where the possession of these features determines whether or not a being should be treated morally (Wolfe, 2010). Undermining this humanist "logic of domination" is often identified as a *raison d'etra* for the school (Oliver, 2009). The other being the argument that we're already living in a post-humanist society and

thus need new philosophies and ethics that are not grounded in humanism (Wolfe, 1995). Post-humanism, as a discipline, then has the single unifying goal of moving beyond the humanist project. The majority of this dissertation focuses on critiquing post-humanism and animal metaphysics, as chapters two and three provide literature reviews of these schools and chapter four sketches out areas of future growth.

1.2 Contribution to the Literature

Due to how the dissertation project is situated, it contributes to existing literature in the following ways: First, the project crosses philosophical traditions, such as the Continental and analytic divide, illustrating how work using these divergent philosophical traditions can work together on questions concerning the animal. Second, the project builds bridges between animal ethics and animal metaphysics and opens up new areas of research for both of these branches of inquiry. This second contribution is particularly important, as these two areas influence one another yet largely remain separate. Indeed, while there is some cross-over between work on animal capabilities and animal ethics, the areas have largely developed in isolation, due to the institutional separation of applied and theoretical philosophy. However, animal ethicists often draw on work on animal capabilities and philosophers working on questions of animal cognition often hold strong ethical positions. Thus these two areas have different origins yet there is cross-over in the fields. As Petrus and Wild (2013) argue,

> "Philosophers working on questions of animal ethics usually draw on research into animal cognition and subscribe to strong positions regarding animal minds. Whereas philosophers interested in the question of animal minds sometimes draw ethical conclusions from the positions they argue for. In spite of such overlaps, these two areas of research have grown up separately" (p. xi).

This dissertation project is firmly situated at the nexus between these two fields, as it grapples with the fundamental metaphysical frameworks that form the foundations of philosophical work

on animal minds and draws connections between this work and the application of ethics in human-animal contexts. Work at this nexus is particularly important for (at least) the two following reasons: 1) work on animal capabilities impacts the creation and application of ethical theories and 2) work on animal capabilities may include potentially problematic metaphysical assumptions that could negatively impact animal ethics. Each of these points will be discussed further below, as they form the foundation for my project.

First, current animal ethicists are increasingly recognizing how theories or models of animal capabilities impact the creation and application of ethical theories. As Palmer (2010) argues, the most common type of animal ethics is one built on a claim that some animal capability (such as sentience, the ability to feel pain, or to have a sense of self) provides the justification for treating animals ethically. The basic structure often takes the following form: "A single (or several) 'keystone' capacities, capabilities, or attributes that bestow moral considerability are identified. It is then argued that (some or all) animals possess the keystone capacity (or capacities), attribute (or attributes), or capability (or capabilities) and are therefore morally considerable" (p. 10). Thus various capacities, some of which concern cognitive abilities, are used as starting points for animal ethics. For example, Singer's (2009) and other utilitarian based animal ethics often focus on the ability to feel pleasure and pain or to suffer. Regan's (2007) animal rights ethic is built on the claim that most mammals are subjects of a life and thus have inherent value. Finally, Nussbaum's (2007) capabilities approach accepts the capacity to feel pain as the primary factor determining whether or not animals are morally considerable and heavily relies on conceptions of what it means for animals to "flourish" (Palmer, 2010). In each of these examples, cognitive criteria are used to distinguish animals that are morally considerable from those that are not.

Concerning the application of ethical theories, models and notions of pain, pleasure, sentience, and other capabilities often impact how ethical theories are applied on the ground. Even relatively straightforward ethics, such as a utilitarian calculus based on the reduction of pain, become problematic in the field, as different models of pain will yield markedly different animal welfare recommendations. For instance, if we used Nelkin's (1986) model of pain that emphasizes the role of the neocortex in producing pain sensations, then animals, such as chickens, that have a small neocortex may have a very different experience of pain or no experience of pain whatsoever, as Nekin argues. If this is the case, then the arguably poor conditions of chickens in egg and meat operations could become ethical non-issues (chickens could be removed from the ethical circle, so to speak) or minor changes to facilities could be seen as satisfying ethical obligations. In contrast, alternative models of pain not dependent on the neocortex, such as those found in recent work on chicken cognition, may require more drastic changes to such facilities. Other attributes such as what it means to "flourish," have ones' interests met, or be cognitively stimulated, such as ideas that under-gird enrichment activities for farm animals, are more complex and vary from stakeholder group to stakeholder group. Thus, even when such concepts and models do not negate the application of an animal ethic, they still play a role when the particular ethic is applied. Most importantly, they often influence how it is applied. For this reason, my final chapters focus on better understanding how various commitments influence the application of ethics in human-animal contact zones and provide tips that engaged ethicists may find useful during application.

Second, as will be argued throughout this dissertation, work on animal capabilities includes various metaphysical assumptions that may be problematic. Ethicists and theorists working on problems of animal capabilities do not occupy a "God's eye view" where they are

divorced from historical contexts, societies, scientific research, values, and assumptions. Each are deeply embedded or, in the words of Haraway (2001) and Harding (1993), socially "situated" in a particular culture— a culture that tacitly accepts a wide variety of metaphysical/ontological commitments or assumptions, such as the assumption that humans and animals are distinct rather than of a single kind. Here a "metaphysical commitment" should be understood as a basic governing feature of social life (Rose, 2003) or a foundational concept that a person holds regarding what something "is" and the connections between concepts that often form dualisms (Inwagen, 2014). As will be further discussed below, such conceptions deeply influence all areas of life. While these assumptions may be necessary for inquiry and/or may not negatively impact the efficacy of the work produced, some assumptions could contribute to human-centric bias.

It should be noted here that this dissertation project can be understood as an extension of a recent trend in engaged or applied ethics from the application of ethical theories to the development of more contextual approaches. As Douglas (2010) argues, it has become increasingly apparent in all branches of applied ethics (be that bioethics, environmental ethics, or animal ethics) that the "application of traditional theories rarely provides either the philosophical insight or the practical guidance needed" (Douglas, 2009, p. 322). She concludes that "coming into a complex context.... [such as a human-animal contact zone] with a particular theory (e.g. a Kantian approach) and attempting to simply apply that theory rarely provides much assistance or illumination" (Douglas, 2009, p. 322). Additionally, Palmer (2010) takes various problems associated with the application of animal ethics to intimate that animal ethics based on capabilities misses the importance of contextual relationships, such as those created through domestication. Thus, for her, there is a flaw or blind-spot in the ethical approaches themselves, as they do not recognize the importance of contextual relationships when determining right action.

8

However, contexts, like people brought up in these contexts, are infused with a wide array of metaphysical commitments or assumptions, as discussed above and in the preface. For this reason, I argue that the various issues of application also help provide justification for my larger project of being sensitive to metaphysical assumptions when applying ethics and the dissertation specific project of identifying key commitments built into the philosophical approaches that produce theories of animal cognition, pain, and various other capabilities that guide ethical application. Now that the dissertation project has been situated in the literature, the next section of this chapter provides a general overview of commitment types that could be found in the schools of animal metaphysics and post-humanism, as this work will help guide the later literature reviews.

While the majority of work in post-humanism and animal metaphysics is rigorous by the standards of each philosophical school, nevertheless, a variety of assumptions and basic commitments play important roles. As will be discussed in detail in chapters two and three, this point is evident when one performs a literature review of animal metaphysics and post-humanist literature. Indeed, the fields themselves recognize the importance of epistemological and metaphysical assumptions. For instance, contemporary animal metaphysics uses at least three approaches[2] when exploring epistemological and metaphysical questions concerning non-human animals (Lurz, 2009, p. 5). While listing the specific approaches is not important to my argument here, what is important is the fact that two of the three accept markedly different epistemological starting points, criteria, and values, as is made evident by debates over the application of criteria and the efficacy of these approaches (Andrews, 2011). It is fair to state then that epistemological

---

[2] These are as follows: 1) arguments from intentional systems theory, 2) arguments from "common-sense functionalism," and 3) arguments using science.

assumptions play an important role in the field beyond subjects of inquiry. Additionally, scholars in this field often take part in heated debates on how exactly to define and apply key ontological concepts, such as consciousness (Lurz, 2009), language (Bermudez, 2003), what it means to lie or be surprised (Pepperberg and Lynn, 2000), to mind-read (Carruthers, 2000). As one would expect then animal metaphysics is already familiar with how ontological assumptions influence inquiry. Finally, post-humanists, such as Oliver (2009), Derrida (2008), and Wolfe (2003), argue that unexamined assumptions and definitions of key ontological concepts such as "man," "human," and "animal" have negatively influenced work in animal ethics and on animal minds, in both the theoretical and scientific spheres. Each of these examples illustrates how various commitments already play roles in work on animal capabilities.

With that being said, not all assumptions perform the same functions, as epistemic criteria (accepted by communities) that are necessary for inquiry (Zagzebski, 1996) are often quite different from the ontological commitments post-humanists critique—commitments that they argue contribute to the oppression of non-human animals. In other words, while some assumptions may be necessary starting points for inquiry, some could contribute to human-centric bias. This section of the dissertation provides an overview of various types of assumptions that could be influencing work on animal capabilities. The first half of this section draws upon the work of Charles Mills (2005) to explore potentially problematic assumptions that could be incorporated into the products of inquiry, such as in theories or models of animal cognition. More specifically, this section forwards the argument that theories of animal cognition could include the following potentially problematic assumptions: a) idealized ontologies, b) idealized cognitive capacities, and/or c) blindness to oppression. The second half of this section outlines various assumptions that could be incorporated into the methods and methodologies that

produce these products, such as metaphysical and epistemological commitments. However, before presenting this argument, I first wish to outline an important distinction found in Mills' work.

Mills (2005) provides a robust description of the assumptions built into ideal models in his essay "'Ideal Theory' as Ideology." Specifically, Mills argues that ideal theories are, at least in part, ideological, as they often reflect and perpetuate group privilege. While the majority of his argument is not applicable to my project, Mills makes an important distinction between different definitions (or aspects) of ideal theory, one being "ideal-as-normative" in contrast to "ideal-as-model" (p. 166). Ideal theories fall under both the first category, as they involve appeals to values and ideals, and the second category, as they *purport* to describe or model phenomena of the world in which we live (Mills, 2005, p.166). Additionally, ideal theories are "ideal-as-model" because part of the process of crafting ideal theory involves abstracting away certain features of the studied aspect of the world based upon what the theorist takes to be most important. Thus such theories, as idealized models, are divorced from the totality of what is being studied. The closer the model approximates reality, the more useful it is for predicting behavior.[3] For example, a highly detailed model of a cell or of a clock will be more useful for predicting future behavior or the effects of actions than one that vaguely resembles these structures. Mills goes on to argue that, while such models are useful in physics and other hard sciences, they can be problematic when applied to humans or other agents, especially in the field of ethics, as such idealization

---

3   While this is a key point in Mills argument, it should be noted here that is it not necessarily the case that the usefulness of a scientific model is dependent upon how fully it approximates reality. For example, Kuhn (1970) argues that the act of doing science is not the accumulation of "truths" or the correction of past errors. In actuality, science progresses only if the scientific community shares a strong commitment to a disciplinary matrix or paradigm that consists of shared theoretical beliefs, techniques, methods, and even metaphysical commitments (Bird, 2013). However, this does not undermine Mills' general critique of applying such models to agents. In fact, it more fully illustrates how ideal models are a products of the historical time-period in which they were created and influenced by the commitments of those crafting them.

"involves the modeling of what people should be like (character), how they should treat each other (right and good actions), and how society should be structured in its basic institutions (justice)" (Mills, 2005, p. 168).

Mills goes on to identify potentially problematic assumptions that could be built into the structure of such ideal theories. However, before outlining these, it is important to stop for a minute to explain why this is applicable for work on animal capabilities. Specifically, I argue that Mills critique of ideal-as-model theories can help us to better identify potentially problematic assumptions, as some work on animal capabilities can be considered "ideal" or, more broadly, makes use of abstracted models intended to describe phenomena. It is important to note here that what distinguishes ideal theory from non-ideal theory is the fact that ideal theory is built on the tacit assumption that the model is either an unproblematic representation of the actual phenomenon (which is either too complicated or not worth studying in its own right) or that the ideal model is the preferred starting point for better understanding the represented phenomenon (Mills, 2005). By this definition, top-down approaches in animal metaphysics could be considered ideal, as they take models of the human mind as starting points for determining whether or not non-human animals have various mental capacities (Lurz, 2009). While work using this approach often draws heavily on real life examples or scientific studies, the models are often the starting point from which these theorists attempt to determine whether or not animals have mental capacities. In fact, according to Oliver (2009) and Wolfe (1995), work on animal capabilities often uses such facts as *support for* various models. Thus one could argue that, at least in these instances, the models themselves are not derived from first-hand animal studies (non-ideal theory) but pre-dated the contextual data. Additionally, as many philosophers working on questions concerning animal capabilities (in both schools) are not directly interacting with the

animals they purport to understand, one can again argue that abstract theories and models are their preferred starting point. If this is the case, then work on animal capabilities that starts with models could be considered to fall under the ideal-as-model umbrella. Finally, in the area of application, models of animal capacities, such as those that determine whether or not an animal can feel pain, could be treated as unproblematic representations (at least by the scholars applying these theories) of various mental phenomenon. For these reasons, Mills critique could apply to work on animal capabilities that fits the definition of ideal-as-model.

It should be noted here that this does not mean that all work on animal capabilities should be considered *prima facie* ideological or problematic. However, what this does mean is that such theories could include the following basic assumptions and concepts identified by Mills (2005): a) idealized ontologies, b) idealized cognitive capacities, and c) blindness to oppression.[4] Idealized ontologies are roughly the basic characterizations of human beings, non-human animals, and the interactions between the two (Mills, 2005). Idealized cognitive capacities can be understood as the attribution of "completely unrealistic capacities" attributed to an ontological group, such as humans, that may be unrealistic even for a privileged minority (p.168). The process of abstracting and the combination of accepting these models as unproblematic (and thus the ontological assumptions embedded win these models) coupled with the application of models to non-human others, leads to a "blindness of oppression" or the lack of acknowledgment of key contextual factors (Mills, 2005), such as the history of domination, coercion, and other social factors that impact the creation of ideal models and the cognitive capacities being studied. A theorist can also be considered blind to oppression if s/he does not adequately acknowledge or address potential problematic consequences of her theoretical work to historically marginalized

---

4   Mills (2005) includes a more exhaustive list of basic assumptions. However, I've only included the ones
      applicable to my argument.

groups. This particular point plays an important role in chapter three's critique of post-humanist theory.

A cursory analysis of philosophy of animal mind provides evidence that such work contains idealized ontologies and idealized cognitive capacities. As discussed above, idealized ontologies and cognitive capacities inform models of cognition derived from a meditation on human cognition that privilege certain forms of thought, such as human centric models or those that implicitly privilege one set of cognitive traits while devaluing others. A large portion of analytic work on animal capabilities cannot avoid presupposing both a social ontology and an abstracted characterization of human beings or other agents. In point of fact, work in this field sometimes begins with an idealized model of cognition that is thought to explain how human cognition works that is then applied to non-human animals. For example, higher order representational approaches (HOT) start from a position that consciousness requires higher order functions (Lurz, 2009), such as the ability to use language (Bermudez, 2003), to mind-read (Carruthers, 2000), or to lie or be surprised (Pepperberg and Lynn, 2000). However, such models may be unrealistic as they describe capacities that only a select group of humans actually possess, ignoring those with disabilities or diverse thought processes (Grandin, 2005), and alternative cognitive structures that non-human animals may possess. This claim at least partially maps onto Pepperberg and Lynn's (2000) critique of historical work on animal capabilities. Specifically, they state that "whatever level of competence animals demonstrate, detractors simply 'up the ante,' redefining the concept so as to exclude nonhumans" (p. 895).

In addition, while some work on animal minds is species specific, such as McAninch et al's (2009) work on conceptual abilities in monkeys and Tezlaff and Rey's (2009) work on honeybees, several theorists use examples from a variety of non-human species (such as

monkeys, dolphins, wasps, honeybees, etc) in order to make arguments concerning all non-human animals (Davidson, 2005, Fodor, 1975). Here the capacities of a multiplicity of animals are either abstracted and then held up to the ideal human model or idealized into a single model of "animal thought" and then critiqued. Finally, assumptions concerning social ontologies (or the lack there of, in the case of animal communities) are often implicitly accepted in such work. For example, focusing on language and propositional statements itself involves the assumption that this mode of communication is not part of human's unique social structure but a necessary condition for individual thought. Indeed, Savage-Rumbaugh et al (2000) argues that bonobo language studies previously poor results were not due to a lack of linguistic capacities in these animals but due to assumptions regarding the nature of language and how bonobo society functions. Thus there are at least three distinct types of idealized capacities or ontologies in work on animal minds: idealized human capacities, idealized animal capacities, and idealized social ontologies.

Third, similar to the classical liberal model, the above idealized capacities/ontologies are by the very process of abstraction divorced from key contextual factors that impact the development of capabilities, such as domination, oppression, coercion, and various environmental and social factors. A large segment of the work in animal minds (in the analytic tradition) says very little or nothing about the human domination, oppression, use, and modification of non-human others that historically and currently shapes human-animal relationships, ontological concepts, and previous scientific work on non-humans. Nor is this work sensitive enough to address issues arising from the fact that this historical oppression has shaped basic social institutions and humans working within those institutions, as philosophy of animal minds currently focuses on individual capabilities and not on the social milieu that

impacts this work. However, as is clearly illustrated in the history of science, especially histories of scientific work on race and gender (Fausto-Sterling, 2001; Martin, 1997), ignoring such factors has produced biased scientific studies and descriptive theories in the past. By extension, work in animal minds that utilizes ideal models are also open to this problem that could potentially weaken the efficacy and rigor of this work. This is especially the case with non-human animals as, argued by Kalof (2007), humans have been effectively dominating non-human others since antiquity. Surprisingly, a similar critique can also be made concerning the effects of post-humanist theory, as will be fully discussed in chapter three.

One way that theorists working in animal minds have attempted to guard themselves against the possibility of bias or anthropomorphism has been to cling stringently to the ideal of "objectivity" and the application of Morgan's Law, a methodological principle that mandates all psychological processes be interpreted in the least sophisticated way possible (Fitzpatrick, 2009; Lurz, 2009; Andrews, 2011; Morgan, 1903). Indeed, as will be discussed below, arguments from intentional systems theory are often challenged with the claim that they are not scientific precisely because they violate Morgan's Law and are thus biased (Kennedy, 1992). However, as discussed in chapter four, such critiques are essentially blind to the more nuanced biases built into the models themselves and within the methodologies and methodological principles used to craft these models.

This turn to methodology brings us paradoxically back to our initial questions concerning the effects of basic commitments. While Mills (2005) work provides insight into potentially problematic assumptions potentially built into *the products* of inquiry (theories and models), we still have not provided an adequate understanding of various assumptions that could be in the methods and methodologies that produce these products, as inevitably some assumptions are

necessary for inquiry (such as that time is linear, for example). Indeed, all methods and methodologies are grounded in epistemologies that include basic commitments (Bentz and Shapiro, 1998; Harding, 1987). Even scientific inquiry committed to traditional conceptions of "objectivity" do not escape basic assumptions, as these methodologies are built on the basic assumption that "value-free" inquiry is both possible and preferable (Worley, 1995). However, as argued by a plethora of theorists[5], value-informed science is unavoidable. This basic claim holds for both philosophical and scientific inquiry (Moulton, 1980; Worley, 1995; Zagzebski, 1996).

For example, Moulton (1980) builds upon feminist critiques of science, arguing that, just as there can be no value free science, there can also be no value free philosophy. Philosophical methods, methodology, observations, and evaluations cannot be done from a view from nowhere or apart from basic assumptions concerning the world in which we live. Methods of doing philosophy, such as ideal theory (Mills, 2005) and the adversarial method (Moulton, 1980), also have different assumptions built into their structures and thus may potentially include problematic presuppositions that could skew results or close off different ways of knowing (Plumwood, 2001). For this reason, Moulton (1980) claims that such methods act like paradigms in the realm of philosophical inquiry, each with their own particular epistemic criteria and assumptions. As will be discussed throughout this dissertation, debates on animal capabilities are often not disagreements about the capacities of animals but, in reality, conflicts arising from conflicting methodological commitments— commitments that influence all stages of theoretical work in philosophical and scientific inquiry.

For example, as mentioned above, arguments on animal capacities starting from intentional systems theory and functionalism are often dismissed with the claim that they are

---

[5] See Kourany (2010), Harding (2003), Shapin and Schaffer (1985), Gilman (1993), and Hubbard (1979), among others.

anthropomorphic and thus not objective, as they begin from a biased position (Lurz, 2009).
Similarly, scientific arguments starting from "folk psychology" or the assumption that non-
human others may have higher order capabilities are often critiqued as unscientific because they
unjustifiably assume a connection between animal behavior and various mental states or start
from a position that posits human behavior to animals and thus violates Morgan's Law
(Fitzpatrick, 2009; Lurz, 2009; Andrews, 2011). However, Andrews (2011) argues that Morgan's
law can be applied in many different ways, as both the law and non-human animal behavior can
be interpreted in a plethora of fashions. Thus the application of this rule does not ensure that
findings are "objective" or value free.

 Andrews' critique of Morgan's Law illustrates how arguments concerning whether or not
work on animal minds should begin from a position that posits intentionality is not about
guarding against anthropocentrism or bias but, rather, the result of conflicting commitments
within different methodologies. While intentional systems theory starts from a position positing
intentionality, other theorists see this starting point as already biasing the scientific work
(Fitzpatrick, 2009; Andrews, 2011). As work using intentional systems theory continues to
produce good scientific findings (Savage-Raumbaugh and Fields, 2000; and Pepperberg and
Spencer, 2000), the problem is not whether or not such theories are flawed (Andrews 2011).
Rather this issue may be that the accepted starting point of this approach is not compatible with
methodologies that do not start of a position that posits intentionality. Thus such arguments can
be understood as, at least partially, paradigmatic incompatibilities stemming from 1)
metaphysical commitments and 2) epistemological commitments.

 Metaphysics is the branch of philosophy that investigates basic features of reality. While
this topic is often considered to be one of the most abstract branches of philosophy, in actuality, a

majority of the key problems in metaphysics began as simple reflections on everyday experiences. It considers concepts such as *existence, identity, universals, time, substance, causation,* and other basic concepts that appear to be presupposed in any method of formal and informal inquiry (Haslanger and Sveinsdottir, 2011). Indeed, as Mills (2005) and work in feminist metaphysics make clear (Haslanger, 2000), philosophical inquiry can also not avoid incorporating such entities into the structure of both the methods and models of such inquiry. According to Haslanger (2000), when engaging in thinking or philosophical inquiry, "ordinarily we take ourselves to be dealing with an ontology of substances, natural things, intrinsic properties, [but] we're in fact dealing with an ontology of social things, relations, and non-substantive (and often normative) kinds" (p. 1). Common metaphysical commitments built into inquiry include but are not limited to the following topics: a) the "nature" of things that exist or of "being as such," such as the kinds of minds that non-human animals possess (these can also be understood as "ontological" commitments); b) the existence of metaphysical objects, such as first causes, universals, substances etc.; and c) assumptions about free will or about the mind and body. As scientific and philosophical inquiry on questions concerning animal minds cannot escape from making such commitments, it follows that unexamined metaphysical entities could negatively impact this work or, at least, limit such research. To put it succinctly, due to such commitments, we need to ask whether and to what extent philosophical and scientific methods and frameworks are distorting in ways that privilege humans.

For example, as argued above, work on animal minds sometimes makes arguments about the capacities of an entire class or kind of being: Specifically, animals. However, Derrida (2008) argues that the social construction of the term "animal" as a sign that signifies all non-human life (thus forming the human-animal dualism) is an ontological claim that forms the foundation of

19

human oppression of non-human others. Similarly, in feminist philosophy of science, there is a rich history of work (see Delphy, 1984; Scott, 1986; Butler, 1990; Zack, 2002; Warnke, 2008) on how key concepts, such as gender and race, are socially constructed and have historically biased scientific and philosophical inquiry, inquiry that was then used to further reinforce oppression (Richardson, 2010). While such biases could influence later stages of scientific inquiry, such as the interpretation of findings, they are also built into methodologies themselves. For example, Bordo (1987) and Keller (1985) argue that the sharp distinction between the subject and object of knowledge is a metaphysical commitment that partially makes up the traditional concept of objectivity, a concept that analytic philosophers and scientists often identify or automatically assume is a fundamental part of the process of inquiry (Worley, 1995). Thus the sharp distinction between human and non-human animals could be more than simply a product of bias. It could be a byproduct of methodologies and epistemologies that require such a distinction or that obscures relational qualities and thus the distinctions of non-human animal communities and the social construction of knower and known.

Assumptions such as those that makeup the traditional concept of "objectivity" can also be understood as epistemological commitments. Epistemological commitments are those that focus on the production and dissemination of knowledge. These claims largely concern the following topics: a) justification or the necessary and sufficient conditions for knowledge; b) acceptable sources of knowledge; c) the definition and limits of knowledge; d) the structure of knowledge; and e) the value of knowledge (Sosa et al., 2008). In work on animal capabilities, epistemological commitments greatly influence subsequent theories of animal cognition. For example, both animal metaphysics and post-humanism accept basic commitments regarding whether or not subjectivity can be known. Subjectivity will be discussed more fully in chapter

two but what is important here is that different schools working on animal minds accept *both* metaphysical and epistemological claims concerning the nature of animal minds. Depending on the school, subjectivity is either understood as an ontological object that is knowable or not knowable and this commitment includes an epistemological claim regarding whether or not we can gain knowledge of animal minds. While theorists working in animal metaphysics largely accept the claim that subjectivity is something that we can gain knowledge of, post-humanists reject this position, arguing that subjectivity is socially constructed (an ontological claim) (Foucault, 1970) or inaccessible/unknowable (an epistemological claim) (Diamond, 2008). In addition, as discussed, philosophical skepticism is often used in the field of animal metaphysics to deny that animals have the capacity to think. This points to the further epistemological claim that theories should only "reflect reality" that is "uncontaminated" by human emotion and interests (Worley, 1995).

1.3 Moving Forward: Feminist Philosophy of Science

Thus various assumptions could potentially be built into *the products* of inquiry (theories and models) and in the methods and methodologies that produce these products. Not recognizing how implicitly accepted values and ontological assumptions influence theoretical work produces bad philosophy (see Hubbard, 1979; Bleier, 1984; Fausto-Sterling, 1985; Kourany, 2010; Mills, 2005). As work on animal cognition directly informs animal ethics, the potential consequences of biased theories are dire, as they could be used to justify harmful or oppressive behavior towards non-human others and potentially label it ethical. In fact, work on whether or not animals feel pain directly influences policy in areas such as agriculture and laboratory testing (Sherwin, 2001; Elwood, 2011). As philosophical work grappling with questions concerning animal capabilities will always include various assumptions and there are potentially harmful consequences of this

21

work, I argue that we need to determine whether and to what extent these theories are being distorted in ways that privilege humans and develop better methods of inquiry that take such values into account. The first part of this chapter contributed to this goal by providing an outline of possible assumptions. However, more tools are needed to determine whether or not assumptions contribute to human bias. For this reason, this dissertation brings feminist philosophy of science into discussion with animal metaphysics and post-humanism, as the field has a history of identifying problematic biases in inquiry.

Feminist philosophy of science is a multidisciplinary branch of feminist scholarship that began in the 1960s with the goals of critiquing sexist science, advancing women in the sciences, and critically evaluating methods of scientific inquiry (Richardson, 2010, p. 337). The field actively creates new epistemologies and reforms aspects of dominant modes of inquiry so that they serve the interests of underrepresented groups (Anderson, 2015). As this work is largely done from a position of the marginalized, the theoretical tools developed in this field are both diverse and highly sensitive to values and basic commitments that guide research, such as the types of commitments outlined above. In this dissertation, I argue that feminist philosophy of science could help in the following ways: 1) it could help determine whether philosophical and scientific methods, models, and frameworks used in philosophy of animal minds are distorting results in ways that privilege humans, 2) help address various weaknesses of the different schools of thought exploring questions concerning animal minds, 3) provide opportunities for these schools of thought to work together, and 4) contribute to the project of developing value informed methods of inquiry.

In fact, feminist philosophy of science, feminist science studies, and, more recently, feminist metaphysics have a long history of identifying and challenging potentially problematic

assumptions. For example, by the end of the twentieth century, work in feminist science studies

and feminist philosophy of science provided critiques of some of the most influential scientists

(such as Darwin, Freud, Newton, and Einstein) and illustrated how their work was influenced by

the social values of their times (Kourany, 2010; Elkana, 1982; Shapin and Schaffer, 1985;

Gilman, 1993; Ruse, 1999). More generally, Hubbard (1979) argued the following:

> As scientists, we learn to examine the ways in which our experimental methods
> can bias our answers, but we are not taught to be equally wary of the biases
> introduced by our implicit, unstated and often unconscious beliefs about the
> nature of reality. To become conscious of these is more difficult than anything else
> we do. But difficult as it may seem, we must try to do it if our picture of the world
> is to be more than a reflection of various aspects of ourselves and our social
> arrangements." (p. 10-11)

Thus a predominant critique was that value-informed science (and indeed value-informed

philosophy) is unavoidable, as all inquiry is a product of a specific time and place. Even basic

concepts used in scientific practice did not escape this critique, as theorists, such as Keller

(1985), Bleier (1984), and Rosser (1990), challenged the traditionally held scientific values of

simplicity, explanatory unification, and consistency, and argued that they should be replaced with

other values better suited to help scientific fields recognize bias and move beyond their sexist

past (Kourany, 2010; Longino, 1994).

As will be illustrated in this dissertation, the above insights are particularly valuable for

work on animal cognition. Like sexism and other forms of systematic discrimination, speciesism

is form of bias that, when implicitly guiding inquiry, could reinforce oppressive social structures.

In order to guard against this bias and thus make such work more "objective," we need to utilize

the tools developed by other disciplines that have a long history addressing such bias.

Metaphysical, methodological, and epistemological commitments will always influence inquiry,

so the goal is not to remove such factors but to recognize how these commitments influence our

work and to guard against commitments that reinforce systems of oppression, such as sexism,

androcentrism, and speciesism. The aim of this dissertation then is to apply feminist philosophy insights to philosophical work in animal minds in order to illustrate how these theories are potentially distorted due to speciesest methods, models, and frameworks and thus lay the foundation for developing value informed methods of inquiry in this field. In the next section of this introduction, I give a brief outline of each chapter.

1.4 Dissertation Chapter Outline

The second and third chapter of this dissertation provides the groundwork for the project of applying feminist philosophy of science insights to philosophical work on animal cognition. Specifically, these two chapters are comprised of literature reviews of the two schools of philosophical work currently addressing these problems: Animal metaphysics (chapter two) and post-humanism (chapter three). These chapters also contain analyses of the various assumptions built into their respective products and methodologies and identify key concepts that may cause conflict between the schools. Additionally, as will be discussed in chapter four, animal metaphysics uses many of the concepts of science and draws upon scientific work. This opens it up to pitfalls outlined by feminist philosophers of science, such as the need for more robust forms of objectivity.

Chapter four builds on these analyzes, arguing that feminist philosophy of science can help address pitfalls in both fields. Specifically, concerning animal metaphysics, I argue that feminist philosophy of science is uniquely equipped to better understand and address key tensions in the field and open up areas of future growth. Concerning post-humanism, I argue that feminist philosophy of science has valuable tools that can help the field find a theoretical framework, making the twin goals of building a post-humanist ethic and politic possible. Regarding both schools, I argue that adopting a multiplicity of approaches could provide novel

knowledges regarding non-human others, especially when new epistemologies (coming out of these approaches) are used to ground theoretical and scientific work in this area. This chapter particularly important for my overall project, as feminist philosophy of science recognizes the importance of analyzing how values inform inquiry, provides powerful critiques of fundamental concepts used in the sciences and work in animal metaphysics (such as objectivity), is keenly aware of how scientific research influences social communities (both human or non-human), and has previously made arguments for methodological plurality and/or increased inclusion. Thus feminist philosophy of science provides the tools necessary to further work on animal capabilities, while staying vigilant against the incorporation of speciesist assumptions.

The final two chapters of the dissertation consist of applied examples of how metaphysical assumptions influence the creation of knowledge claims and behavior towards non-human animals beyond the realm of philosophy of mind. While the previous chapters illustrated how theories and models of animal cognition are influenced by metaphysical, epistemological, and methodological assumptions, these chapters bring the discussion back to the realm of animal ethics as it connects animal metaphysics to the application of ethical theories in human-animal contact zones. Thus it points at and illustrates how the previous chapters further my larger project of exploring how various metaphysical commitments are built into the fabric of human-animal contexts.

More specifically, chapter five explores how work on and models of animal cognition impact the field of animal ethics, especially in the realm of engaged ethics. The structure of this chapter goes as follows: First, I give a brief overview of what I mean by "engaged animal ethics" in contrast applied animal ethics. I then illustrate how knowledge claims regarding animal cognition and capabilities influence this practice. Drawing upon the work of Palmer (2010), I

argue that the various issues that arise when applying animal ethics illuminate the problem that models/theories of cognition, pain, and various other capabilities may negatively impact the application of animal ethics. I go on to argue that while ethics may not have the tools to address these issues, the field of animal metaphysics can provide insights that philosophers may find useful when applying ethical theory in human-animal contact zones. The paper ends with an overview of general recommendations those working in these contact zones may find useful. The contribution of this chapter to the wider literature is primarily in the realm of application, as it teases out the complexities of putting animal ethics into practice in highly complex human-animal contact zones.

In the final chapter, I outline insights that current theorists working in environmental ethics can gain from the analysis of nineteenth century cities, contexts largely ignored by scholars working in this field. During this time, cultural changes shifted key metaphysical conceptions that greatly impacted human-animal relations and the structure of urban areas. An analysis of urban areas during this time reveals two sets of competing conceptions that, when accepted, help shift both the design of urban environments and our relationship with the natural world in these contexts. After this historical analysis, I apply these insights to the field of environmental ethics in order to illustrate how they contributed to the "urban blind-spot" and skewed early work on urban environments. Thus we need to be particularly careful when choosing a metaphysical base for our current urban environmental ethics, as, depending on your specific project, implicitly accepting certain commitments could inadvertently work against the overall goals of an urban ethic.

Chapter 2: An Analysis of the Literature on Animal Minds: Animal Metaphysics

Two distinct schools working on epistemological and metaphysical questions concerning animals have emerged within the last 15 years, each with their own strengths and weaknesses. The first school, called animal metaphysics, comes out of the analytic tradition and primarily focuses on obtaining a more accurate account of the mental life of non-human animals, as this work is presumed to be necessary for articulating human's ethical obligations, if any, to non-human others. The second school utilizes work coming out of the Continental tradition and seeks to challenge humanist assumptions, such as the metaphysical and ethical divide between humans and non-human others. The purpose of this chapter is to give a detailed overview of animal metaphysics, identifying fundamental assumptions and metaphysical commitments and outlining specific tensions within the field. The following chapter will then provide a similar analysis of post-humanism.

The first section of this paper provides a general summery of the field of animal metaphysics, outlining current strengths and tensions in the field. The second section of the paper outlines important metaphysical, epistemological, and methodological commitments that play a major role in creating the tensions and a perceived impasse in animal metaphysics. The final section draws upon this analysis, arguing that, no matter which approach you choose in animal metaphysics (one grounded in folk psychology or in skepticism), it is impossible to fully eliminate the commitments identified in the second section of the paper and thus work drawing from both approaches is potentially open to bias and the "blindness to oppression" pitfall discussed in chapter one. However, this does not mean that work on animal minds is impossible. Rather, there is a need for new scientific methodologies sensitive to such influences.

2.1 Overview of Animal Metaphysics

Work in animal metaphysics largely comes out of the analytic tradition has been particularly prolific, especially within the last decade (Lurz, 2009). As discussed in chapter one, the following two factors may be partially responsible for this renaissance: 1) new scientific work that undermines previously held conceptions of animal thought and 2) a growing animal ethics literature that identifies animal capacities (such as sentience and suffering) as important factors in determining what ethical duties, if any, humans have to animals (Jamieson, 2009; Dennett, 1996). Indeed, many theorists working in this area are committed to a connection between knowledge claims regarding animal capabilities and human ethical duties towards non-human others. For example, Jamieson (2009) argues that "we owe moral duties to such creatures [sentient animals], but exactly which moral duties depends on the creature's interests... In order to know what our duties to animals are, it is not enough to know that they think, we must also know something about how they think" (p.16). In addition, Dennett (1996) claims that "membership in a class of things that have minds provides an important guarantee: the guarantee of a certain sort of moral standing. Only mind-havers can care; only mind-havers can mind what happens" (p. 158).[6] As a result of these factors, several theorists have taken up the challenge of better understanding animal thought and there is now a plethora of new work on animal minds, work that I briefly outline below.

According to Lurz (2009), there are two categories of questions concerning animal minds in philosophy: 1) metaphysical questions and 2) epistemological questions. Metaphysical

---

6   Here Dennett's (1996) work can be understood as a direct attack on animal ethics that argue for limiting suffering, as Dennett claims that pain states only morally matter when there is a subject who can attend to such states (Wolfe, 2010). If animals do not have higher order mental states, then they cannot attend to suffering and thus animal ethics built upon this foundation lose all moral force. In addition, Diamond (1978) attacks this connection between capabilities and morality, arguing that such approaches miss fundamental aspects of the human relationship between other humans and that between humans and animals.

questions are those that focus on better understanding "what kinds of minds" non-human animals possess or what kinds of minds can be deduced from their behavior (p. 4). The predominant metaphysical questions concerning animals in the history of philosophy are whether or not animals have reason, can think, or are language users. Epistemological questions, in contrast, concern *our* knowledge or how humans understand non-human animal minds. Both of these types of questions are currently signified by the term animal metaphysics.

In addition, philosophers historically used three main approaches when considering these kinds of questions: The top-down approach, the bottom-up approach, and a mixed bottom-up and top-down and approach. (Lurz, 2009, p. 5). A philosopher using the top-down approach starts philosophical inquiry with a reflection on human minds, focusing on how human mentality is expressed using language. In this approach, the more closely animals approximate the model, the more likely they have minds. In contrast, a philosopher using a bottom-up approach begins philosophical inquiry with a reflection on intuitively probable or scientifically argued forms of mentality in animals and then applies these potential models to questions concerning animal minds. A mixed approach includes aspects of both approaches. These three main approaches are predominantly used in current work in animal metaphysics (Lurz, 2009).

Building upon the above foundation, contemporary animal metaphysics provides three specific types of arguments supporting the claim that animals have the ability to think and reason (Lurz 2009, p. 5). These are as follows: 1) arguments from intentional systems theory (Dennett, 1987), 2) arguments from "common-sense functionalism" (Carruthers, 2004; Fodor, 1987) and 3) arguments using science (Allen and Bekoff, 1997; Bermudez, 2003). Arguments from intentional systems theory contains two basic premises: 1) that mental states (belief, perceiving, desiring, etc) are theoretical concepts that are existentially determined by a form of *folk psychology* or

common-sense psychology[7] and 2) that this theory instrumentally interprets common-sense psychology, so that an animal is understood to have mental states if his/her behaviors are predicted through the use of common-sense psychology (p. 6). For theorists holding this view, the fact that we can accurately predict animal behavior from an intentional stance gives strong evidence that non-human animals can both think and reason. The main objection to this argument is that it is a type of anthropomorphism, as one can also predict the behavior of non-living objects, such as a clock or car.

Common-sense functionalism also accepts basic premise one. However, theorists who hold this view interpret common-sense psychology from a functionalist perspective, meaning that thought is understood as made up of internal states that play functional or causal roles and are related to sensory information, behavioral responses, and other mental states (Levin, 2013; Lurz, 2009). Here a mental state is not determined by its internal constitution but by the role or function that it plays in a larger cognitive system. For example, a sample functionalist account of pain is as follows: Pain is a state that is often caused by physical injury (sensory information) that produces the belief that "something is wrong" and the subsequent desire to leave this state. This desire produces anxiety and physical cues, such as moaning, wincing, and facial expressions. Thus, a functionalist would argue that only animals who have these internal states are capable of being in pain (Levin, 2013). While many functionalists now hold (Bickle, 2012; Smart, 1959) that pain and other mental states can be "multiply realized," or caused by multiple physical states (such as different brain states in various animals and even electronic states), common-sense functionalism has also been used to support the view that mental states require "a

---

7   Here folk psychology should be understood as applying "common sense" to predict or understand animal behavior (Lurz, 2009). This form of psychology includes the assumption that that animals are "intentional systems" and, for this reason, humans often take "intentional stances" towards non-human others (Dennett, 1987; Lurz, 2009, p. 5).

language of thought," as Fodor (1975) argues that internal states have structures similar to sentences (Lurz, 2009). Theorists working in animal metaphysics have both argued that animals have mental states and questioned whether thought actually presupposes linguistic structures (Jamieson, 2009; Saidel, 2009; Stalnaker, 1999).

According to Lurz (2009), arguments using science have become prevalent over the last twenty years due to the growing unpopularity of radical behaviorism, the rise of psychological cognitivism, and influential works by scientists, such as Griffin (1976), Pepperberg (1994) and Savage-Rumbaugh and Fields (2000). In addition, there was a clear shift in the types of questions scientists began to test, with researchers increasingly exploring and finding evidence to support hypotheses concerning animal minds grounded in folk psychology. This work is often used by theorists working in animal metaphysics, such as Camp (2009), Carruthers (2009), and Tetzlaff and Rey (2009). Indeed, some animal metaphysicians have used this scientific work to argue that we are justified in accepting the claim that animals have mental states, due to the fact that scientists find this starting assumption useful and scientific work has supported hypotheses grounded in folk psychology (Lurz, 2009).

However, scientific work that is informed by folk psychology has been challenged as unscientific in at least two ways: First, theorists argue that this work is unscientific on anthropomorphic grounds. For example, Kennedy (1992) argues such research is not scientific because it is unwittingly anthropomorphic, as humans cannot help but project intentionality on the world around them. In addition, this work violates a historically fundamental law of animal psychology called Morgan's Law meant to guard against anthropomorphism (Fitzpatrick, 2009; Lurz, 2009). This methodological principle goes as follows: "In no case is an animal activity to be interpreted in terms of higher psychological processes if it can be fairly interpreted in terms of

processes which stand lower in the scale of psychological evolution and development" (Morgan, 1903, p. 59). Morgan believed that anthropomorphic approaches to understanding animal behavior are problematic, as these lifeforms are primitive. Since animal behavior can always be understood in ways that do not posit intentionality, then any scientific study or explanation that utilizes folk psychological terms is unscientific (Lurz, 2009; Bermudez, 2003). Second, Clayton (2006) argues that, as scientifically based explanations of animal consciousness and behavior are "objective," this means that the research community largely agreed on what counts as evidence for or against specific behavioral explanations (such as that a parrot manipulates symbols, for example). This fact implies that such evidence is merely verbal reports and is, therefore, unscientific (Lurz, 2009).

While critiques of scientific work informed by folk psychology can be understood as an indirect challenge to work supporting the view that animals think, the contemporary scholar who is best known for his criticism that animals have thought is Davidson (1984; 1985; 1997). Davidson provides three arguments that animals do not have mental states: 1) the intentionality test argument, 2) the argument from holism, and 3) the argument involving surprise (Lurz, 2009). The intentionality test argument revolves around our use of language. Davidson argues that our belief descriptions describing how animals think are unwarranted because, in the absence of linguistic capacities in animals, there are a plethora of different ways of describing how animals think and no method available to decide between them (Lurz, 2009; Davidson, 1985). Second, the argument from holism focuses on *de re* (literally "of the thing") belief statements. Specifically, he argues that attempts to identify objects animals think about are unwarranted because animals could be thinking about any number of categories of objects. Thus the only way to identify which objects are being thought of is to have a detailed understanding of the

background beliefs that an animal holds. Davidson (1984) goes on to argue that this is impossible, as animals do not have the ability to speak. Davidson's final argument focuses on belief. He argues that if animals had beliefs, then they would be surprised when a belief turns out to be false. He goes on to argue that this requires that animals view the world as something made up of "objective facts," and the only way that animals could come to this conclusion is through the comparison of his/her own belief with others. Since animals do not have speech, they cannot do that. Several theorists argue against Davidson's arguments. For example, Carruthers (2008) and Tye (1997) question whether surprise actually involves belief about background beliefs (Lurz, 2009). Armstrong (1973) rejects Davidson's radical flavor of holism and Bermudez (2003) attempts to develop a theory where animals have the capacity to make *de dicto* ascriptions.

A second set of arguments challenging the view that animals think (or, in this instance, are conscious) utilizes "*higher order thought theory*" of consciousness (Carruthers, 2000; Lurz, 2009) or, specifically, the view that a mental state is consciousness when the being "has (or is disposed to have) the higher-order thought that he [or she] is in such a mental state" (Lurz, 2009).[8] This theory of consciousness coupled with the belief that language is a requirement for higher-order thought has been used to argue that animals are not conscious. For example, Bermudez (2003; 2009) argues that animals cannot speak nor understand a public language. For this reason, they do not possess propositional attitudes (such as desire, belief, surprise etc) and thus are not conscious. Carruthers (2000) argues that if non-human animals had concepts, then they should be able to use these concepts to mind-read or anticipate the behaviors of other

---

8 While higher order theory is the most widely accepted theory of consciousness, first order representational approaches are also gaining popularity in the literature. In this approach, a being is conscious not because he or she has higher order thoughts but that the mental states themselves entail that the subject is aware of the environment (Lurz, 2009). For examples of this approach in animal metaphysics literature see Dretske (1995), Tye (1997), and Lurz (2006). Also see Hegel (1991) for an early account of the mind that could be considered a higher order theory approach.

animals. He goes on to argue that there are no empirical cases of non-humans engaging in this activity. However, Lurz (2007) raised several counter arguments to Bermudez's (2003; 2009) arguments and both DeGrazia (2009) and Gennaro (2009) cite several empirical studies that challenge Curruther's claim that animals are incapable of mind-reading.

Even with this tension, however, the analysis above illustrates how field of animal metaphysics has least the three following strengths: 1) it draws from a multiplicity of fields both inside and outside philosophy to create a plethora of potential accounts of animal cognition; 2) insights from the field are easily incorporated into other areas of philosophy, such as in animal ethics literature 3) and, as will be discussed in chapter four, some of the work coming out of this field (specifically, studies grounded in folk psychology) potentially adds to the post-humanist project of undermining humanism, as it challenges the sharp distinction between humans and other animals. First, as illustrated by the vast amount of interdisciplinary work in this field, animal metaphysics draws from a wide range of fields, such as psychology, cognitive science, ethology, primatology, philosophy of mind, philosophy of language, and philosophy of science to name a few. For this reason, the creative work of crafting accounts of animal minds isn't overshadowed in this discipline by the philosophical project of critique. In addition, due to the interdisciplinary nature of the discipline and the large number of methods and methodologies employed, insights from animal metaphysics are at at least cursorily more easily incorporated into other fields. Third, scientific work that continues to identify capabilities once through to be uniquely human in non-human animals is being produced by work in animal metaphysics, specifically work that posits intentionally. As will be discussed in the next chapter, such work contributed to the critique of the humanist subject and thus informed the initial development of the second philosophical branch working on animal cognition, post-humanism. However, while

this field does have the above strengths, the next section of this chapter will outline potentially problematic commitments in the literature.

2.2 Commitments in Animal Metaphysics

As discussed in chapter one, commitments influence both the products of inquiry and the methodologies used to craft these projects. While I will not recreate the arguments justifying the above claim (see the previous chapter), the outline presented illustrates how various assumptions and commitments inform work in this discipline. First, idealized approaches to theories of animal cognition could include basic assumptions and concepts such as a) idealized ontologies, b) idealized cognitive capacities, and c) blindness to oppression (Mills, 2005). Idealized ontologies and cognitive capacities inform models of cognition derived from a meditation on human cognition that privilege certain forms of thought, such as human centric models or those that implicitly privilege one set of cognitive traits while devaluing others. While most scientific inquiry uses models, what differentiates ideal models from non-ideal are the following traits: Ideal models are assumed to be unproblematic representations of phenomenon and ideal models are used as the starting point for inquiry, rather than the various phenomena studied. The process of abstracting and the combination of accepting these models as unproblematic (and thus the ontological assumptions embedded within these models) coupled with the application of models to non-human others, leads to a "blindness of oppression" or the lack of acknowledgment of key contextual factors (Mills, 2005), such as the history of domination, coercion, and other social factors that impact the creation of ideal models and the very cognitive capacities being studied (such as work on swine cognition).

Similarly, as discussed in the section on the methodological assumptions, commitments are built into the process of doing philosophy (Moulton, 1980). Like in the sciences,

philosophical methods, observations, and evaluations cannot be completed from a view from nowhere or apart from basic assumptions about the world in which we live. Two key types of commitments found in methodologies are the following: 1) metaphysical commitments and 2) epistemological commitments. As discussed in chapter one, metaphysical commitments are those concerning the following topics: a) the "nature" of things that exist or of "being as such," such as the kinds of minds that non-human animals possess (these can also be understood as "ontological" commitments); the existence of metaphysical objects, such as first causes, universals, substances etc; and assumptions about free will or about the mind and body (Inwagen, 2014).[9] Metaphysical commitments include but are not limited to what Mills' (2005) labels ontological assumptions, while epistemological commitments focus on the production and dissemination of knowledge. The two pitfalls illustrate how these commitments permeate both the models and philosophical methods used in theoretical work coming out of animal metaphysics. While not all of these will be detrimental on philosophical inquiry (such as accepted views regarding time, space, substances etc.), some commitments could potentially weaken the efficacy of the work, make collaboration difficult between different branches of philosophy working on animal questions, or lead to the continued propagation of speciesist biases. The following section identifies basic assumptions in animal metaphysics.

As Mills (2005) critique of ideal theory and chapter one's outline of methodological assumptions illustrate, three general types of commitments are found in animal metaphysics: 1) metaphysical commitments (including ontological claims), 2) epistemological commitments, and 3) methodological commitments (that include both metaphysical and epistemological claims).

---

9 Here I purposefully collapse the metaphysical with ontological as questions concerning the nature of being and other ontological topics (also known as pre-medieval and post-medieval topics in metaphysics) are still considered to be within the purview of metaphysics.

General metaphysical commitments play important roles in both scientific and philosophical inquiry in the area of animal cognition. For example, the school of animal metaphysics largely accepts the following three basic metaphysical commitments: 1) that subjectivity is something that can be known; 2) a humanist conception of the mind; and 3) either the ontological separation of humans and non-human animals or the denial of this divide. Regarding the first commitment, the school of animal metaphysics would not exist today or would look markedly different if theorists working in this field did not accept the claim that we can gain access to or learn something about metaphysical objects, such as subjectivity or the mind. While this commitment may appear basic, it is contested in the larger philosophical literature. In particular, Derrida (1982) discusses the end or limit of metaphysics in *Margins of Philosophy* and Foucault (1970) argues that subjectivity or human nature is not an object that can be "known" but is a recent invention. Thus I argue that animal metaphysics is largely built upon the basic metaphysical commitment that subjectivity is something that can be known, rather than something that is constructed by social and cultural contexts. If this were not the case, then we would not have potential models of animal cognition, such as higher order representational (HOR) and first-order representational (FOR) approaches.

Second, animal metaphysics largely accepts a Cartesian conception of the mind that privileges rationality, autonomy, agency, and/or authority. For example, "higher order thought theory" (HOT) privileges rationality and agency and "language of thought" theorists, such as Fodor (1975) privilege rationality and propositional language. This metaphysical construct is then used as the standard model by which others are judged (see Carruthers, 2008 and Fodor and McLaughlin, 1990). As discussed above in the section on idealized ontologies and cognitive capacities, such models of cognition often implicitly privilege one set of cognitive traits while

devaluing others. This work can be problematic when coupled with the additional humanist assumption (accepted by some theorists in this field) that animals who have a mind more closely resembling the human mind should be treated ethically, in contrast to "others" who do not have these mental capacities.

According to Oliver (2009), the majority of current work on animal ethics (outside the Continental tradition) does just this, as it focuses on measuring animals against the human yardstick in order to identify similarities and differences between humans and non-human other with the goal of helping us determine whether or not they should be treated like humans. Such debates then inform further discussions concerning animal rights and animal welfare standards, which, in turn, also include analogies (especially in the animal rights literature) between animals and other historically repressed groups, such as women and minorities. Oliver goes on to argue that the work largely ignores how the human/animal dichotomy and "Western conceptions of *man, human, and animal*" historically operated in the Western Tradition to simultaneously privilege white men and to justify the oppression of entire groups of people and non-human animals (p. 26). Thus such work largely leaves intact a conception of humanity built upon the Cartesian view of "man" as "free, autonomous, self-sovereign, and rational" in contrast to all other beings whose behaviors were determined by natural law, irrational, or dependent upon various factors other than rationality (p. 26). While the Cartesian subject has been challenged in a plethora of literature, such as in feminist care ethics and post-structuralism, like Oliver, I argue that work in animal metaphysics also leaves the Cartesian conception of "man" in place and other concepts, such as rationality, autonomy, and freedom, that have historically played a central role in the domination of humans over non-human others.

Third, the use of the term "animal" to signify the multiplicity of all life other than human

is, according to Derrida (2008), an ontological claim that forms the foundation of the human domination of non-human others. Similarly, according to Oliver (2009), this distillation and the human/animal dichotomy that it is a part of played a major role throughout the history of philosophy, in that "the opposition between man and animal has consistently been used to delineate the nature of humans and humanity against the nature of animals and animality" (Oliver, 2009, p. 27). She goes on to argue that animal ethics arguments that attempt to identify and use similarities between humans and non-human others as primary reasons for treating animals like humans make use of this dichotomy. Similarly, I argue that animal metaphysics arguments that make use of the term "animal" in this way and/or accept the separation between humans and all other animals also make use of this dichotomy and thus the ontological conceptions that it is founded on.

In addition, I argue that the distillation of all animals into a single ontological category (and the subsequent use of the signifer "animal") is founded upon a fourth metaphysical commitment found within animal metaphysics, or the assumption that there is a sharp distinction between the subject and object of knowledge, or the knower and the known. As Bordo (1987) and Keller (1985) argue, this metaphysical commitment partially makes up the traditional concept of objectivity, a concept that analytic philosophers and scientists often identify or assume is a fundamental part of the process of inquiry (Worley, 1995). This more general metaphysical commitment, the particular human/animal dichotomy, and the denial of these commitments can be found in animal metaphysics. For example, as discussed above, work in animal metaphysics that makes use of folk psychology begins from the assumption that animals are similar to humans. Thus, one could argue that these theories deny the human/animal divide at least at the beginning stages of research. (However, the sharp distinction between the subject and

object of knowledge may inform later stages of inquiry.) In contrast, critiques of theories grounded in folk psychology claim that this starting point is biased and thus accept the divide between humans and animals as the unquestioned starting point for inquiry (Lurz, 2009). As will be discussed below, this debate can be understood as a result of conflicting metaphysical commitments. However, in this section of the paper, the debate serves to clearly illustrate how the above metaphysical commitments inform current theories of animal cognition and important conflicts in the literature.

In addition to metaphysical commitments, general epistemological commitments in the field largely concern the following topics: a) justification or the necessary and sufficient conditions for knowledge; b) acceptable sources of knowledge; c) the definition and limits of knowledge; d) the structure of knowledge; and e) the value of knowledge (Sosa et al., 2008).[10] In animal metaphysics, epistemological commitments greatly influence subsequent theories of animal minds. For example, the claim that knowledge is propositional is foundational in Evan's (1982) argument that for a being to be a genuine thinker, he or she must be able to entertain all "syntactically permissible combinations of any concepts that they possess" (Carruthers, 2008). Evan's argument, called the generality constraint, is justified by the belief that thought has to be compositionally structured (Carruthers, 2008), a belief that is shared by language of thought theorists (Fodor and McLaughlin, 1990) and several animal metaphysicians, such as Dummett (1973), and Stich (1989). In addition, as discussed in chapter one, philosophical skepticism is often used in animal metaphysics to deny that animals have the capacity to think. This points to

---

10 It should be noted here that epistemological questions also concern if it is possible for humans to be able to know what it is like to think like an animal, such as those posed by Nagel (1974) in his famous paper "What Is It Like to Be a Bat?" and the commitment regarding whether or not subjectivity is something that can be known. This last example (discussed in chapter one) is both a metaphysical commitment (in that subjectivity is understood to be an ontological object that has the property of being able to be known) and an epistemological claim, as it entails the possibility of being known and thus includes an epistemological claim.

the further epistemological claim that theories should only "reflect reality" that is "uncontaminated" by human emotion and interests (Worley, 1995).

Methodological commitments are metaphysical and epistemological commitments that play pre-empirical and/or post-empirical roles in scientific research, research that is often used to support arguments in animal metaphysics. While animal metaphysics collapses methodological concerns into the category of epistemological questions (Lurz, 2009), this is a mistake, as commitments that influence work on animal minds are often not strictly epistemological, though they play a role in knowledge formation. In addition to epistemological commitments, metaphysical and value commitments influence all stages of research, such as influencing the choice of questions to be investigated, the formulation of research projects, and the interpretation of data (Harding, 1993). For example, Andrews (2011) argues that charges of anthropomorphism play pre-empirical roles in research on animal capabilities. However, there is no inherent problem with the examination of questions concerning psychological properties of non-human animals, such as whether or not they have psychological states or specific personality traits (p. 470). In the next section of this paper, I discuss how contradictory assumptions cause a fundamental tension within the school of animal metaphysics.

2.3 A School Divided: Tensions in the Field

While the above commitments can be found in the school of animal metaphysics as a whole, I argue that the metaphysical and epistemological commitments that largely divide the field are those inherent within different approaches: Specifically, 1) approaches that posit intentionality or use analogical inference and 2) approaches that start from a position of skepticism or the position that we should only accept justified propositions as starting places for inquiry. The first approach accepts the metaphysical claim that we can gain knowledge of the

subjective but does not accept the ontological separation of humans from all other animals. Indeed, it takes our probable likeness to animals as a starting point of research. In contrast, the second approach is dubious or skeptical of this starting point and is built upon the assumption that humans and non-human others are ontologically different or that we should not posit likeness without justifiable evidence. Thus they take difference or alterity as the starting point. For these reasons, the main tension in the field appears to revolve around the choice to either start inquiry from a position that posits human/non-human likeness or from a position that accepts a commitment to the ontological difference between humans and non-human others.

This is illustrated when you examine argument types for and against the claim that animals have mental states. For example, the three types of arguments identified by Lurz (2009) supporting this position are either based in intentional systems theory or upon a type of cross-species analogical inference (i.e. the view that the best explanation of animal behavior is that there is a link between behavior and mental states). The main difference between 1) arguments from intentional systems theory and 2) arguments from common sense functionalism is not that they posit intentionality. Rather it's based on the use of different perspectives when interpreting mental states from a folk psychology perspective (Lurz, 2009). Thus, while they differ in interpretation, these theories largely share the same starting point. In addition, arguments from science that support this position are predominantly based in folk psychology, as they begin with the premise that behavior is linked to mental states.

In contrast, arguments against the above position are often based in skepticism. These arguments revolve around the claim that every member of the class of propositions regarding animal minds cannot be justified without an appeal to either an anthropomorphic claim (the attribution of "human" characteristics to nonhuman animals) or to the inference that behavior is

caused by mental states, both of which are not justified and thus deemed to be unacceptable forms of justification. This position itself is based upon two claims: 1) the epistemological claim that knowledge must be justified or verified and 2) the methodological claim that we should only accept propositions that are justified as starting places for research or philosophical work in animal metaphysics. Thus we should not posit intentionality or use analogical inference, as claims that animals have these features have not been justified. While I will not go into justified, true, belief or JTB conceptions of knowledge here, as this is too deep of an analysis for the purposes of this critique, it is important to recognize that the supposed lack of justification plays a major role in arguments against the claim that animals have mental states.

For example, the main critique of arguments from intentional systems theory are that they are anthropomorphic, or that these theorists do not adequately justify the attribution of intentionality to non-human animals (Lurz, 2009). Arguments from common sense functionalism are similarly dismissed, with "language of thought" theorists positing that thought has a linguistic structure (Fodor, 1975; Fodor and McLaughlin,1990) and that there is little to no evidence supporting the view that animals have the capacity for such thoughts (Lurz, 2009). Scientific arguments using folk psychology, in addition to being called unscientific or nonobjective, have also been dismissed on the grounds that they unjustifiably posit human behavior to animals or assume a connection between behavior and mental states, which, depending on how you interpret findings, could violate Morgan's Law (Fitzpatrick, 2009; Lurz, 2009; Andrews, 2011).

Thus there appear to be two predominant approaches in animal metaphysics that accept opposing basic epistemological and methodological claims. The first set of approaches posits intentionality or uses analogical inference as the starting point for philosophical and scientific

inquiry regarding the mental capacities of non-human animals. The second set of approaches start from a position of skepticism or the position that we should only accept propositions that are justified as starting places for inquiry. In addition, the above assumptions perform pre and post empirical/philosophical roles, as they often dictate the type of questions asked, the methods of investigation, and the interpretation of data. While it may seem equally acceptable to either posit intentionality or call for skepticism regarding animal thought, it is important to note here that there is no fully agreed upon justification for the belief that humans have mental states (Hyslop, 2014). The most common solution, however, is grounded in folk psychology, as Western philosophers argue that the best explanation of human behavior is provided when we accept the *unjustified* inference that there is a link between mental states and behavior, the same inference accepted by the first set of approaches. Thus the choice above appears to be one grounded in whether or not you accept the ontological difference between humans and non-human others and not on strictly methodological or epistemological grounds.

Interestingly then, one can argue that animal metaphysics mirrors the following extreme positions found in work on animals that addresses suffering: *biological continuism* and *metaphysical separatism* (Lawlor, 2007; Oliver, 2009). *Biological continuism* is the view that animals share the same properties as humans and thus should be treated in the same way as humans. In contrast, *metaphysical separatism* is the view that any similarities between humans and non-human animals are accidental or examples of anthropomorphism. This second view involves the reduction of animals to machines or the support of a human/animal dichotomy that allows for no compassion. In the realm of ethics, Lawlor (2007) argues that both of these positions are flawed and thus neither is sufficient to address the animal question.

In the area of animal metaphysics, various forms (both extreme and not) of *biological*

continuism and *metaphysical separatism* can be found in the literature (Lawlor, 2007; Oliver, 2009). However, in this realm, positions do not determine whether or not we feel compassion for animals but determine the beginning of scientific and philosophical inquiry. In particular, skepticism concerning potential connections between humans and animals appears to be one way of shutting down dialog, as there is no agreed upon method other than positing intentionality to side step the problem of justification, a move that is itself challenged by skeptical claims. Thus we appear to be at an impasse in the field, with two sets of philosophers and researchers utilizing incompatible approaches that lead both to the creation and to the questioning of claims regarding non-human animal capabilities. While this impasse could be considered merely theoretical, it has real world implications, as theorists (Jamieson, 2009; Dennett, 1996) have accepted the link between animal mental capabilities and human duties towards non-human animals and the epistemological dangers of positing intentional behavior to non-intentional beings is also a real possibility.

2.4 Skepticism, Anthropomorphism, and Potential Bias

In addition, it should be noted here that if the choice between approaches grounded in folk psychology or those that start from a position of skepticism depends upon other factors, such as whether or not the theorist/researcher accepts the ontological difference between humans and non-human others, then this could open up such work to being influenced by unexamined and potentially harmful commitments and biases. Indeed, the application of methodological principles, such as the principle of simplicity (Fitzpatrick, 2009), and charges of anthropomorphism (Andrews, 2011) have recently been called into question on similar grounds. Specifically, Fitzpatrick (2009) argues that the application of the criteria of simplicity plays a major role in debates concerning whether or not research provides support for claims that

primates are capable of mindreading. Interestingly, Fitzpatrick claims that "both proponents and skeptics of primate mindreading have argued that their explanation is 'simpler' or 'more parsimonious' than alternatives and hence should be preferred" (p. 258). However, notions or definitions of what it means to be "simpler" are quite slippery, as there is a multiplicity of ways that interpretations can be said to be simple or complex. Thus, instead of guarding against bias, the application of this criteria could be guided by distinct conceptions of simplicity and various other commitments, some of which could be harmful to the research. Similarly, Morgan's Law (Morgan, 1903), or the law that all animal behavior must be interpreted in the least psychologically complex manner, is often evoked to guard against anthropomorphism. However, as this law is essentially calling for simplicity, one can apply Fitzpatrick's critique to its application, as well.

Second, as argued above regarding theoretical work on animal minds, Andrews (2011) argues that claims of anthropomorphism play pre-empirical roles in scientific studies on animal cognition. Critics of research on animal cognition claim that language is necessary for thought (a pre-empirical commitment), behavior can always be interpreted using the model of classic conditioning (a claim using the criteria of simplicity), or that "we ought not examine the psychological properties of animals because it will lead to biased results... [as] humans are unable to control their tendency to see psychological properties wherever they look" (p. 4). Thus the bias of potentially anthropomorphizing animal behavior can only be guarded against by denying the intentionality of any animal behavior. Andrews (2011) goes on to argue that this method of guarding against potential bias essentially denies the possibility of doing science on animal minds *in toto*. While it is important to recognize that such bias my potentially effect work, it does not follow that science is impossible. Rather, the critique identifies a need for new

scientific methodologies specifically designed to counter this form of bias.

As discussed above, the application of at least two criteria or claims aimed at limiting bias are themselves influenced by various commitments. For this reason, even these stop-gaps could open up such work to being influenced by unexamined and potentially harmful biases. Thus I argue that, no matter which approach you choose in animal metaphysics, it is impossible to fully eliminate the influence of various normative, metaphysical, and epistemological assumptions, as the criteria/claims utilized by those who embrace the position grounded in skepticism are open to bias. This opens up the field as a whole to blindness to oppression discussed in chapter one, as in its search for traditional "objectivity," the field has largely ignored the history of human domination, oppression, use, and modification of non-human animals that historically and currently shapes human-animal relationships, the above commitments, and the creation of scientific criteria or laws, such as Morgan's Law itself.

However, as Andrews (2011) argues, this does not mean that work on animal minds is impossible. Rather, there is a need for new scientific methodologies sensitive to such influences. In chapter four, I argue that feminist philosophy of science and socially relevant philosophy of science can help the field of animal metaphysics begin to flesh out exactly what such methodologies would look like. These methodologies (and the epistemologies that ground methodologies) do not need to be created *ex nihilo*, as there is a rich tradition of philosophical thought grappling with issues of bias in various spheres of inquiry. The next chapter provides a general outline and identifies commitments found within a second branch of philosophy that focuses on animal minds: Post-humanism.

Chapter 3: An Analysis of the Literature on Animal Minds: Post-Humanism

The second branch of philosophy focusing on the metaphysical and epistemological capabilities of animals is "post-humanism." Depending on which genealogy you trace, post-humanism either began during the 1960s when poststructuralists interrogated humanist assumptions or it began between 1946 and 1953, during the time of the Macy Cybernetics Conferences (Wolfe, 2003; Wolfe, 2010). This confusion is the result of the term "post-humanism" being used to signify two separate projects: 1) The project of using technology to expand the capacities of humanity (a project that is grounded in rational humanism) and 2) the separate project of challenging humanist assumptions, such as the ethical and metaphysical divide between humans and non-human animals (Badmington, 2003; Wolfe, 2008). Relatively recently the first project separated from post-humanist literature and is now labeled "transhumanism," while the second project of challenging humanist assumptions retains the original term "post-humanism" (Garreau, 2005; Wolfe, 2010).

The majority of post-humanist literature is rooted in poststructuralism and builds upon or critiques the work of Continental philosophers such as Derrida, Levinas, and Lacan. While there are major differences in post-humanist theories, one primary point unifies this work: Post-humanists juxtapose themselves against the humanist project. Humanism is, roughly, a philosophical tradition first appearing in Renaissance Europe that focuses on the study of the human subject and the identification of features intrinsic to "man" (Nayar, 2014). Here I specifically use the term "man" as this tradition historically conceptualized the "human" as male, universal, and singular with the following features: Rationality, autonomy, agency, and authority.

Humanism envisions this universal subject as the "centre of the world" acting upon the environment around him. Thus in this tradition, awareness of the self, the ability to rationally act or respond (in contrast to react), and the freedom to pursue individual goals are taken to be signs of one's humanity. This concept of human was then linked to a universal form of morality, where the assessment of whether or not a being has these features (and thus belongs to the category "human") determined the type and amount, if any, of moral obligations owed to that being (Wolfe, 2010). Indeed, Nayar (2014) argues that much of the work in modern ethics (post 1600) is founded on "a common human condition" or the universal humanist conception of a person as autonomous, self-determining, and rational.

Thus post-humanism, as a discipline, can be understood as a body of work with the single unifying thread of dismantling and moving beyond the humanist project, hence the term "post" humanism. While post-humanists come out of different philosophical traditions, most identify key areas of scholarship, happening within the last decade that combined to cause a crisis in humanism, a crisis that made the birth of this discipline possible. These are as follows: 1) poststructuralist critiques of humanism (Wolfe, 2003), 2) scientific work on animals (Haraway, 1989; Wolfe, 2003), and 3) the de-centering of the humanist subject by feminism and critical race theory (Nayar, 2014). Each of these areas of scholarship attack humanist ideals and/or undermine the humanist conception of the subject, such as the autonomy and rationality of the human mind. Indeed, a key point made by two of the three areas of scholarship above is that the very idea of the universal human (the standard being the white male) comes out of Europe's Imperial project of conquest, and is thus built upon "a process of exclusion" whereby it has historically been used to label certain ethnicities, genders, and races as "less than human" or "sub human" (Nayar, 2014, p. 11).

The first area of scholarship, or poststructuralist critiques of humanism, began with Heidegger and, later, Foucault's early and middle work, where he critiques the humanist conception of "man" (Wolfe, 1995) and calls into question its aim to "account for the constitution of knowledges, discourses, domains of objects, etc., without having to make reference to a subject that is either transcendental in relation to the field of events or runs in empty sameness throughout the course of history" (Foucault, 1972, p. 58). The referential subject "man" is considered to have this status, as "he" possesses a privileged ability, capacity, or attribute such as the following: The ability to use language, reason, craft tools, or produce goods; the capacity to access the symbolic; or the attribute of having a soul (Wolfe, 1995, p. 33). Interestingly, for Foucault (1984), this critique of humanism is either followed by a type of dystopianism, where the end of humanism leads to "the total saturation of the social field by power, domination, and oppression" or a nostalgic longing for the Enlightenment subject, as is seen in History of Sexuality (Wolfe, 1995, p. 33-34). Current post-humanists, such as Wolfe, accept Foucault's (1984) critique, while distancing themselves from either the dystopian or the nostalgic turn, preferring to accept Latour's position that post-humanist theory must move beyond "historicizing the human" and instead relocate or re-situate humanity.

Foucault's critique of the human sciences also contributed to the project of critiquing the humanist subject. In particular, Foucault states in *The Order of Things*, that "man is an invention of recent date" (1970, p. 387). Here he argues that humans were "invented" when the modes of perceiving or conceptualizing human cognitive processes, behavior, and action were "codified in the human sciences," thus freezing the assumptions inherent in these modes of conception (Nayar 2014, p. 12). Foucault (1970) goes on to claim that the basic metaphysical claim that subjectivity (and its processes and characteristics) can be studied forms the foundation of

humanism and spurred the creation of "human sciences." "Human nature," however, is not a static object that can be known but is a concept that is created and works in specific contexts and cultures; it is a product of discourses (Nayar, 2014). Foucault situates the humanist subject, with "his" rationality and autonomy, within a network of power relations and social forces. Thus knowledge is not the product of this "agent" but of the social context in which it was created.

Other poststructuralists have further contributed to the project of critiquing humanism. Most importantly, Derrida argues that the humanist subject is formed by repressing human's "animal origins in nature, the biological, and the evolutionary" and "more generally by transcending the bonds of materiality and embodiment all together" (Wolfe, 2010, p. xv). However, these limits or binaries (such as human/animal and mind/body) support a "myth of fixity" of concepts, concepts that we must constantly critique in order to disrupt this myth, as such concepts are social creations hiding difference (Derrida, 2008). For Derrida, the humanist subject is specifically defined by what he/she is not and the key divide or limit that makes this process of exclusion possible is the human/animal binary. Indeed, the multiplicity of lifeforms that share our life-world and the differences between them are effectively erased through the distillation of all non-human life into a single category (Oliver, 2009).

It is this category that Derrida wants to complicate, as both parts of the dichotomy need to be challenged in order to unsettle the humanist subject. Derrida "is always concerned with the logic of the limit... [and] a search for the third genus, the third genos, the Geschlecht or khora" (Lawlor, 2007, p. 8). Here khora specifically implies the thickening and multiplication of a limit, transforming it into limits. By complicating the human/animal binary, Derrida does not want to collapse humanity into animality. Rather, according to Lawlor (2007), he wants to "problematize a worldwide anthropology," as both humans and animals suffer from an inability of their essence

and identity to be defined, in so far as these are understood as fixed concepts. The juxtaposition of "man" against "the animal" and "the world" and the inability of animals to speak causes a "silence" regarding non-human others that allows humans to treat them as scapegoats, sacrifice them for human wants, and wage literal war on other species (p. 8-9). Current post-humanists, such as Badmington (2003), Diamond (2008), Oliver (2009), and Wolfe (2003; 2010), use Derrida's argument as the starting point or foundation of their work; hence, their focus on non-human others.

The second area of scholarship that contributed to a crisis in humanism is scientific work on animals. For the past 20 years, research coming out of various scientific disciplines, such as ethology, cognitive sciences, and primatology, continues to identify capabilities once thought to be uniquely human in non-human animals. Thus post-humanists argue that this scientific work undermines the traditional conception of "the human" and the human/animal divide that is its foundation. For example, Haraway (1991) writes that "the boundary between human and animal is thoroughly breached. The last beachheads of uniqueness have been polluted, if not turned into amusement parks-- language, tool use, social behavior, mental events. Nothing really convincingly settles the separation of human and animal" (p. 151-152). Similarly, Wolfe (2003) argues that there has been an explosion of work that calls into question the old tropes of anthropocentrism: Cultural behaviors, language, tool use, concept formation and manipulation, etc. Experiments in cognition and language with animals ranging from parrots to great apes and field studies on highly complex cultural behavior in communities of wild animals have largely eroded the division between human and non-human animals (Wolfe, 2003), a division that is identified by post-humanists as the linchpin of humanism.

The third areas of scholarship that contributed to a crisis in humanism jointly includes

feminism and critical race theory.2 While Wolfe (2010) and Badmington (2003) largely ignore these bodies of work (indeed the majority of post-humanists do), Nayar (2014) argues that critiques coming out of feminism and critical race theory play a pivotal role in undermining humanism. As these areas have been largely ignored, I have combined them into one category, though they each bring unique insights to the debate. As humanism conceptualizes the ideal subject as the white male and then treats all other genders, ethnic types, and differently formed bodies as deviations of this "standard type," or bodies that "lack" some essential feature (Nayar, 2014), work on sexism, racism, ableism, colonialism, and heterosexism etc. clearly undermine historical humanism, as these fields attack the very process of exclusion that forms the humanist subject.

For example, in addition to challenging the humanist male-centric standard (Abu-Lughod, 1993; Belsey, 1980), several feminist theorists also challenge the humanist conception of the subject as autonomous and singular. In particular, Bordo (1993) conceptualizes the body as a place where several discourses intersect. Similar to Foucault (1970), she locates the body and subjectivity itself within specific cultural contexts and discourses. Similarly, Butler (1990) argues that "to understand identity as a signifying practice... is to understand culturally intelligible subjects as the resulting effects of a rule-bound discourse" (p. 145). In addition, Hartsock (1990) replaces the humanist subject with a historically and culturally situated one. Work in feminist philosophy of science (Haraway, 1988; Harding, 1987; Longino, 1990 etc.) also play a pivotal role in the critique and identification of sexist science that both reinforces and is informed by humanist assumptions (Anderson, 2015; Richardson, 2010).

According to Nayar (2014), critical race theorists, such as Fanon (2004) and Gates (2006), also contribute to the critique of humanist assumptions by showing how Europeans

historically "relegated the Africans to the domain of the non-human and the animal" through the use of scientific theories on the "inferiority of the black races" (Nayar, 2014, p. 26). Fanon (2004) writes "he [the colonizer] speaks of the yellow man's reptilian motions, of the stink of the native quarter, of breeding swarms, of foulness, of spawn, of gesticulations" (p. 7). While he recognizes that humanism does have some merit, Fanon (2004) is suspicious of European humanism, as it creates a hierarchy where Europeans are taken as the standard, a standard that is then used to justify the domination, elimination, improvement, or reformation of all other races (Nayar, p. 27). Thus Fanon seeks a complete overthrow of humanism based on the process of exclusion and, instead, desires a form of humanism that respects difference. In addition to critique, these fields also engage in the creative (and more dangerous) work of developing alternative conceptions of the body, knowledge, the self, and even humanism that could potentially replace historically humanist assumptions.

3.1 After the Crisis: Post-Humanism Today

While the discipline of post-humanism was made possible by this crisis, current work in the field focuses on three projects: 1) the further identification of humanist assumptions in cultural and scholarly discourse (Oliver, 2009); 2) the reexamination of philosophical questions from a post humanist perspective (Wolfe, 2008); and 3) the creative project of developing a post-humanist philosophy or theory (Wolfe, 2010). For example, in his recent book *What is Posthumanism?* Wolfe (2010) identifies humanist assumptions in diverse areas of scholarship, such as cognitive science, animal metaphysics, bioethics, and animal studies (project 1). These critiques also include the reexamination of philosophical questions (project 2) and the creation of a post-humanist philosophy (project 3); here Wolfe specifically utilizes deconstruction and systems theory to create a hybrid post-humanist theoretical base.

Similarly, in *Animal Lessons: How They Teach Us to Be Human*, Oliver (2009) critiques current animal ethics (project 1), identifies humanist assumptions that are harmful for the philosophical project of determining what ethical duties humans have to non-human others (project 2), and continues Derrida's task of "tracing" the animal throughout philosophical discourse, illustrating instances when animals challenged the human/animal binary. Oliver ends by outlining foundational principles for an animal ethic not influenced by humanist assumptions, thus contributing to the creation of a post-humanist animal ethic (project 3). As illustrated by Oliver (2009) here and by Wolfe (2010), the three projects identified above may be treated separately but are largely intertwined in post-humanist literature.

In fact, the third project's (creating a post-humanist philosophy) heavy reliance on poststructuralism was at least partially the result of the identification of humanist assumptions in post-humanism itself (project 1). According to Badmington (2003), post-humanism initially understood itself as needing no theorizing, as the field largely accepted the claim that the reality of humanity is immediately before us and thus accessible in the moment. However, Hayles (1999) argues that this starting point is problematic, as a segment of post-humanist work does not undermine the humanist subject but, in reality, reinforces problematic humanistic conceptions of "man," thus failing to move beyond humanism (p. 1). Badmington (2003) argues that Hayle's (1999) critique of the school is haunted by "the possibility that humanism will haunt or taint posthumanism." (p. 11). He goes on to distill her anxiety into the following question: "If traces of humanism find their way into even the most apocalyptic accounts of the posthumanist condition, what is to be done?" (p. 11). Badmington (2003) answers this question, arguing that, in contrast to other theoretical work that contributed to a crisis in humanism (such as Haraway's work), using poststructuralist theory to identify humanist assumptions is of monumental

importance to the "posthumanist landscape" (p. 10). As mentioned above, Wolfe (1995; 2010) also comes to this conclusion, developing his form of post-humanist theory using a poststructuralist foundation. This reliance on poststructuralism will be of particular importance in the analysis of metaphysical commitments in the school outlined below.

The reexamination of philosophical questions, such as what moral duties humans owe to non-human animals, is also greatly influenced by poststructuralism. Indeed, before moving on to outline metaphysical commitments in the field, it is important to further explore the connections between post-humanist theory and this school's interrogation of the human/animal binary. As illustrated above, post-humanists argue that the human/animal dualism is fundamental to humanism and work complicating the concept of "animal" has been pivotal to the project of undermining the humanist assumptions (Derrida, 2008; Nayar, 2014; Oliver, 2009; Wolfe, 2008). This theme in the literature is largely due to the influence of Derrida's work on the question of the animal. Specifically, Derrida argues that "the relationship between humans and animals must change" (Derrida and Roudinesco, 2004, p. 108). However, animal rights literature recreates the very domination and suffering that it seeks to combat, as it is built upon humanist conceptions of the subject. The alternative to such an animal ethic (and the laws and politics born of this ethic), is one that is built upon compassion, sympathy, and "the sharing of this suffering among the living" (Lawlor 2007, p. 12). It involves the cultivation of compassion, avoiding the recreation the humanist subject, "ratcheting down" the human/animal binary (Derrida, 2008), and the recognition of the difference between living beings that requires all living creatures to be treated in a multiplicity of ways, while at the same time not falling into the traps of biological continuism (collapsing humans and animals into a continuous homogeneity) and oppositional separatism (recreating the metaphysical separation between humans and animals) (Lawlor,

2007). Importantly, post-humanists today follow Derrida as he follows the animal. Thus much of the current work in this school is at least partially focused on non-human others.4

For post-humanists then work on non-human animals play two important roles. First, complicating the concept "animal" is necessary for the project of undermining humanism, as the humanist subject is at least partially created through the juxtaposition of "man" and "animal" (Oliver, 2009). Second, as analytic animal ethics (such as animal rights approaches) reinforce humanist assumptions that support logics of domination used to oppress both animals and other groups deemed "sub-human," the complimentary projects of critiquing these ethics and crafting an alternative animal ethic sans humanist assumptions are imperative for ending domination. Oliver (2009) expresses this point eloquently when she states that "practices of oppression, slavery, and torture are historically inseparable from the question of the animal... [as] our concepts of man, humanity, and inhumanity are inherently bound up with the concepts of the animal, animality, and animals." (p. 303). For post-humanists then, readdressing the question of the animal is necessary for the project of undermining humanist assumptions and dismantling systems of oppression that have far reaching effects beyond the sphere of animal ethics.

Indeed, work on non-human animals appears to cross several spheres including the ethical, political, and metaphysical (as the ethic is grounded on the interrogation of ontological concepts) and to draw from the third project of developing a post-humanist philosophy that would form the foundation for philosophical work as, according to Oliver (2009), a methodology or philosophical framework sans humanist influences is necessary for grounding a post-humanist ethic. What such an ethic would look like will be discussed further below. However, it should be noted that, while deconstructing the human/animal dualism is necessary for undermining humanism, according to Wolfe (2008), answering "the question of our moral responsibilities to

57

nonhuman animals" (project 2) and the quest to sketch out what a post-humanist philosophy (project 3) would look like are not the same project.

With that being said, both projects are similar, in that they are a confrontation of the "unspeakablity" that Derrida (2008) describes as stemming from the inability to define the essence and identity of living creatures (Wolfe, 2008). Drawing upon this idea, Wolfe (2008) and Diamond (2008) argue that there is an "unspeakability" concerning how we treat non-human others. This is the "unspeakability" of the limits of our own understanding of our actions when confronted by the realities of how we treat non-human animals (Diamond, 2008), and our inability to move beyond phenomena in order to make any claim to know "the thing in itself" or the noumena (Wolfe, 2008). This final point is referred to as philosophical skepticism (first outlined by Kant). For Wolfe (2008) and Diamond (2008) then, the problems of doing philosophy and crafting an ethic in the face of philosophical skepticism cannot be accomplished by refining philosophical concepts, clutching at reality via analytical categories, or crafting better propositional arguments, as this involves "deflecting" the "unspeakability" and vulnerability that we are faced with, the pressure of a reality that we cannot fully explain.

In contrast, doing philosophy means that one does not deflect this reality but receives and suffers "our exposure to the world" because our concepts and physical selves are confronted by the exposure to the mortality and vulnerability that is a necessary part of being embodied creatures (Diamond, 2008; Wolfe, 2008, p. 8). Humans share this vulnerability with animals and the recognition of this fact is the necessary starting point for the project of crafting an animal ethic (properly responding to injustice) and for doing philosophy post-skepticism (Diamond 2008) and thus crafting post-humanist philosophy. According to Diamond (2008), the recognition of this vulnerability "reontologizes" the human/animal divide in such a way that we can then act

compassionately towards non-human others (Wolfe, 2008, p. 24). Similarly, Oliver (2009) argues that the recognition of the interdependence of humans and animals is necessary for the project of crafting an animal ethic or any ethic, for that matter.

In this way, while the projects of crafting post-humanist philosophy and determining our moral duties regarding non-human animals are distinct, they both share the same starting points (originally outlined by Derrida) of recognizing shared vulnerability or interdependence, problematizing the human/animal divide (or the humanist definition of "man"), and coming to terms with unspeakabilty, with the inability to know things in themselves. As will be discussed below, both projects place epistemology before metaphysics and, for this reason, are primarily interested in the critique and contextualization of ontological objects. Thus each of the post-humanist projects are at least partially influenced by poststructuralism. This is particularly important for the following section of this paper: An analysis of various commitments in Post-humanism.

3.2 Metaphysical Commitments in Post-humanism

When identifying metaphysical, epistemological, and methodological commitments in post-humanism, it is important to remember that this field was born from crisis and the critique and deconstruction of metaphysical objects and structures that govern everyday reality. Indeed, two of the three projects above continue this critical project, while the third focuses on the further unification of the field through the creation of a specific post-humanist theory. However, as argued above, even this third project is deeply embedded in poststructuralist theory (specifically Derrida), as leading post-humanists either call for or largely accept deconstruction as the predominant post-humanist theoretical framework, while simultaneously distancing themselves from feminist philosophy of science and, specifically, Haraway's work (Wolfe, 1995;

59

Badmington, 2003). Thus all three projects are largely built on a foundation of critique and/or deconstruction.

For this reason, one could argue that post-humanism is both anti-metaphysical and deeply metaphysical at its heart. Here I argue that it's anti-metaphysical not because this school denies the existence of ontological objects, but because it largely accepts Derrida's (1982) claim that we are at "the end of metaphysics." Here "end" should not be understood as "death," but as a "limit" or "a recognition that the search for a philosophical architecture which can account for and explain the essential features governing everyday reality...has come to an end" (Rose, 2003). This end is the end of certainty or the end of privileged knowledge, as the tool of deconstruction illustrates how "taken for granted" truths are ultimately constructed. As Dixon (1998) suggests: ``From a poststructuralist perspective...ontological assumptions put the cart before the horse, for any ontology is itself grounded in an epistemology about how we know `what the world is like''' (p. 250). Thus post-humanism is both metaphysical and anti-metaphysical because it is built upon the metaphysical assumption or claim that universal features governing reality are illusions; In actuality, knowledge claims and the various components of metaphysical objects, such as how we divide up, name, and categorize the world are ultimately grounded in the social and cultural contexts in which we create these "truths" (Rose, 2003). This relationship between metaphysical objects and the social construction of these objects is itself metaphysical.

It follows then, in contrast to animal metaphysics, that work coming out of post-humanism does not make use of idealized approaches to theoretical work and thus does not incorporate a) idealized social ontologies, b) idealized cognitive capacities, or suffer from a c) blindness to oppression (Mills, 2005). As discussed in chapter one, ideal theory uses idealized models as starting points for inquiry, rather than starting from the various phenomena studied.

60

The process of abstraction and the non-critical acceptance of such models (and the ontological assumptions embedded in these models) leads to a "blindness of oppression" or the lack of acknowledgment of key contextual factors (Mills, 2005), such as the history of domination, coercion, and other social factors that impact the creation of ideal models. However, post-humanism incorporates insights gleaned from deconstruction, beginning inquiry from a position where ontological and metaphysical concepts used to divide up reality are socially constructed. The field largely rejects the idea that one can build a new philosophy, animal ethic, and theory of animal minds through the formation of propositional arguments, as this strategy deflects the pressure of reality that we are faced with when interacting with non-human others (Wolfe, 2008; Diamond, 2008). Here "pressure of reality" should be understood as both the experience of experiencing the world in the moment and the pressing of the social and contextual factors that permeate this experience. Post-humanism then does not make use of idealized social ontologies, beyond the basic claim that epistemology should be placed prior to ontology.

This commitment extends to the rejection of idealized ontologies and cognitive capacities. In fact, Wolfe (2010) is harshly critical of such models and the fields that create them, such as cognitive science and analytic philosophy, on the grounds that they are anthropocentric, do not challenge various humanist assumptions, and recreate the very structures used to continue the domination of non-human animals. Wolfe (2010) argues that "the issue that separates cognitive science and deconstruction is one that goes all the way down, both epistemologically and ethically: whether or not knowledge is... representational and, within that, how we are to construe the relationship between epistemological and ontological questions" (p. 31). He goes on to argue that analytic philosophy and cognitive science have reserved the rigor of objectivity over and above the "merely epistemological" questioning of poststructuralism (p. 44). These

fields are primarily concerned not with better understanding the socially constructed nature of such models but the construction of cognitive models that result in the creation of ontological difference (p. 44). Deeply flawed theories of objectivity and language built on Cartesian assumptions force cognitive scientists and philosophers, such as Dennitt, to accept ethical implications that undermine their entire project of better understanding animal cognition, as animals are reduced to thin versions of the "ideal human" or Cartesian cogito at the center of human domination over animals. While readers may not agree with Wolfe's critique, it illustrates how, in contrast to cognitive science and analytic philosophy, post-humanism is particularly sensitive to contextual factors embedded in models of cognition and commitments in concepts, such as language, thought, and suffering, that influence human-animal relations. As this field does not make use (and, in fact, critiques) idealized social ontologies and idealized cognitive capacities, I argue that it largely guards itself from the blindness to oppression pitfall. However, this does not mean that the field also sidesteps the methodological assumptions pitfall, as all methods and methodologies used to explore metaphysical questions concerning animals include foundational epistemological, metaphysical, and methodological commitments.

For instance, as discussed above, the position that knowledge claims and metaphysical objects (such as signifiers and the concepts they represent) are developed out of social and cultural contexts is itself a metaphysical commitment that grounds post-humanist theory. While this commitment may guard the school from the blindness to oppression pitfall, it further guides and informs post-humanist theory in a variety of ways, such as providing the foundation for critique important to the larger post-humanist project of moving beyond humanism. The commitment also plays a key role in the third project of crafting post-humanist theory, as it necessitates that the products of these labors be non-ideal or, at the very least, place

epistemology before ontology. This is a purposeful move, as "considering metaphysical questions as ultimately undecidable has the practical effect of forcing us to continually reevaluate what we know and how we act" (Oliver, 2009, p.135). Thus one could argue that placing epistemology before metaphysics deeply effects the methods post-humanists use to "do" philosophy and their ethical theories.

Second, an important metaphysical commitment found in post-humanism is Foucault's (1970) basic metaphysical claim that models of subjectivity are created or a product of specific contexts, cultures, and discourses marked by power (Nayar, 2014). This commitment is diametrically opposed to the claim found in both humanism and animal metaphysics that the mind is a type of metaphysical object that can be separated from the historical context of the scientist/philosopher, the thought experiment, and the animals own social milieu (Wolfe, 2010). Interestingly, this metaphysical commitment was born out of a critique of the Western sciences, as Foucault (1970) argues that codifying models of cognition freezes assumptions into the created conceptual modes and scientific paradigms. While Foucault was specifically discussing the human sciences, this critique and the metaphysical commitment born from it greatly influences post-humanist critiques of animal and cognitive sciences, such as Wolfe's (2010) above. Just as humanist models of reasoning, thought, and cognition are products of power relations and social forces, so are various other models of cognition, processes, and behavior, such as those found in animal metaphysics.

Similarly, a third epistemological commitment found in post-humanist work is that subjectivity is something that cannot be accessed, as work on non-human animals often focuses on the "unspeakability" or inability to conceptualize the gaze of the other where we confront the limits of human knowledge, humanity, and ourselves as other (Derrida, 2008; Diamond, 2008;

Oliver, 2009). Derrida (2008) first brings this unspeakability to focus when he writes the following:

> "My cat... does not appear here as a representative, or ambassador, carrying the immense symbolic responsibility... if I say that 'it is a real cat' that sees me naked it's in order to mark its unsubstitutable singularity... I see it as this irreplacable living being that one day enters my space, enters this place where it can encounter me, see me, even see me naked. Nothing can ever take away from me the certainty that what we have here is an existence that refuses to be conceptualized" (p. 378-379).

Post-humanists such as Wolfe (2008) and Diamond (2008) have interpreted this passage to be a discussion of "the animal gaze" or "the gaze called animal" (Wolfe, 2008, p. 36-37) Here the word "called" plays a major role, as it tries to capture that which is experienced when an animal looks at you. In post-humanist literature, this is not the gaze of a cat, per say, but the limit or end of the human. It marks the end of what can be conceptualized. Similarly, Diamond (2009) argues that when faced with another, be those human, animal, or even artifact, there is a "difficulty of reality" where the mind is not able to fully encompass something that is being experienced, be that the complexity of coming face to face with death, animal slaughter, or the abyss between self and other (p. 45). In contrast to animal metaphysics, where subjectivity (or at least the workings of the mind) is something that we can potentially access, the commitment to the inaccessibility of subjectivity greatly influences the types of philosophy, conceptions of animal minds, and animal ethics coming out of post-humanism. As will be discussed in the next section, these three key metaphysical commitments in post-humanism contribute to the primary problem faced by post-humanism today.

3.3 Challenges Faced by Post-humanism

While theories built on the above metaphysical commitments (that knowledge claims, ontological objects, and models of subjectivity are socially constructed) and the epistemological commitment (that we cannot access subjectivity) are excellent starting points for critique and the

deconstruction of knowledge claims, I argue that they are a potentially problematic base for the creative project of developing a post-humanist philosophy or animal ethic, as all propositional claims and imperatives (such as those used to guide behavior) can potentially be undermined or critiqued by deconstruction. Indeed, as Rose (2003) states, "`deconstruction as method' illustrates how the `taken for granted' is always vulnerable to the undermining process of deconstruction" (p. 463) Thus it is difficult for these theories to be used to guide behavior, as imperatives are essentially undermined by the metaphysical commitments embedded in the theories themselves.

This point is made particularly clear in recent work in ethics, as post-humanist projects in this area often take the above metaphysical and epistemological commitments as starting points for their project, especially when drawing from poststructuralism. For example, Oliver (2009) attempts to build an animal ethic using Derrida's (2001) hyperbolic ethic as a starting point, an ethic that he fully describes in a discussion on forgiveness.5 Specifically, Derrida writes that when forgiveness is aimed at re-establishing normality (be that national, political, social of psychological), then "'forgiveness' is not pure.... [forgiveness] is not, it should not be, normal, normative, normalizing. It should remain exceptional and extraordinary, in the face of the impossible, as if it interrupted the ordinary course of historical temporality." (p. 31-32). Here forgiveness must embrace "impossibility," as "an act of forgiveness worthy of its name, if there ever is such a thing, must forgive the unforgivable, and without condition?... Even if this radical purity can seem excessive, hyperbolic, mad!" (p. 39). For Derrida then forgiveness aimed at the practical project of restoring normality is not worthy of its name; only a radical forgiveness that embraces impossibility enables the possibility of an "ethic." This "ethic" is unintelligible because it is pure and "in order to have its own meaning, must have no 'meaning,' no finality, even no intelligibility. It is a madness of the impossible" (p. 45). Such an ethic must embrace the

unintelligible and always be open to new interpretations. For Derrida, this "hyperbolic ethical vision" is the "condition of responsibility" (p. 51).

While I will not go on to fully unpack Derrida's thought here, it is important to recognize how this ethic plays a pivotal role in Oliver's (2009) project of outlining a post-humanist animal ethic. Specifically, for Oliver, a "hyperbolic ethic" concerning animals must be conceived as an "ethic of difference," born between "sameness and otherness, identity and difference, man and animal" and thus cannot start with a fixed set of imperatives, as we risk dogmatism and ideology, as "the more we risk following moral rules and laws... the more we risk becoming reactionaries fighting for just ends by any means possible... [and] we no longer respond to, or encounter the other (p. 304). Oliver continues, arguing that ethical responsibility is born not from sovereignty or autonomy but interdependence, specifically human dependence on the earth and the various communities that make up ecosystems. Following and reconsidering the animal necessarily transforms our understanding of ourselves and our relationship to non-human animals. An ethic built on this foundation, what she calls a "sustainable" or "free range" ethic, would be built on the obligation to foster nurturing relationships and to continually explore the limits between self and other. For this reason, the ethic would necessarily include an ethic of conservation and an ethic of limits; like "forgiveness," it would embrace the unintelligible and enable the possibility of an ethic, thus becoming an "ethic of responsibility," in that both humans and animals would be able to "respond," opening up "response" beyond the realm of humanity.

For post-humanists, such as Oliver, then the project of crafting an animal ethic is not about moving animals from one side of a divide to another (as is the goal of rights based approaches) but about absolving the oppositional logic that human's use to justify enslaving, imprisoning, using, and eating non-human animals and "others." This project is seen as

imperative for both the specific project of animal ethics and wider ethical projects, such as ending oppression. Such ethics are not dependent on gaining a better understanding of animal cognition, as this is impossible at worst and highly problematic at best, but on confronting the culturally constructed nature of our concepts, vestiges of power built into these concepts, and the limits of human knowledge and the self. Thus such ethics implicitly or explicitly accept the basic commitments above that knowledge claims, ontological objects, and/or models of subjectivity are constructed. In fact, one could argue that Oliver's (2009) and other post-humanist approaches even embrace the final epistemological commitment that we cannot access subjectivity, or at least bypasses the need to assess the minds of non-human animals, as these ethics embrace the claim that animals can respond (in this way, they are akin to folk-psychology methods in animal metaphysics literature).

It is clear from above that post-humanist ethics are particularly careful when martialing metaphysical and ontological concepts, as they are sensitive to how socially constructed objects and dualisms can be used to reinforce systems of oppression. While this is an important project, I argue that crafting a philosophy or ethic not based on the application of propositions or imperatives is problematic from a pragmatic standpoint, regardless of whether or not "we risk dogmatism and ideology" when using such constructions to guide behavior (p.304). In fact, one could argue that post-humanist attempts at revisiting the animal question are themselves at least initially guided by imperatives and premises held by the philosophers, such as Derrida's imperative that "the relationship between humans and animals must change" (Fort, 2004, p. 108) or the basic premise found in Oliver's (2009) ethic that humans are dependent on the earth and the various communities that make up ecosystems. While I do not question either of these, they nevertheless illustrate how the project of doing philosophy and crafting ethics cannot be

separated from the process of creating and using statements and commands, as these projects are linguistic activities. While several post-humanists, such as Wolfe and even Oliver, would agree with this statement, as the exposure of concepts to skepticism does not mean that they do not exist,6 the reliance on deconstruction and the extreme carefulness of the field regarding imperatives and propositions illustrates how a foundation of critique is problematic for crafting ethics used to guide action, as either the ethic is too obtuse to be put into practice or the produced claims and imperatives are already in the process of being critiqued before they leave the theoretical realm, so to speak. This is not surprising, as Oliver (2009) argues that the main issue for both ethics and politics is that we can never be certain that our justice does not result in the harm of others (p. 304).

While Oliver's (2009) concern is in fact a problem, an ethic built on critique cannot replace one that takes on the creative project of forming premises, imperatives, and arguments, as this second type of ethic is necessary for guiding behavior beyond the field of post-humanism, such as by people navigating a multiplicity of human-animal contact zones (on farms, in city parks, and in the house, etc.). However, this does not mean that the constructive ethical project should replace the critical ethic. There is a tension between the two but each are equally important and do not negate or encompass the other. Indeed, Derrida (2001) perfectly describes this tension and lack of irreducibility when he argues the following: "I remain 'torn' (between a 'hyberbolic' ethical vision of forgiveness, pure forgiveness, and the reality of a society at work in pragmatic processes of reconciliation). But without power, desire, or need to decide. The two poles are irreducible to one another, certainly, but they remain indissociable" (p. 51). Derrida goes on to argue that in order to change "pragmatic processes," such as law (which itself is situated between the "empirical" and the "ideal") and progress, it is necessary to refer to a

68

"'hyperbolic' ethical vision of forgiveness" (p. 51). With this being said, an ethical vision may indeed be necessary as a driving force for the creation of an ethic, but this does not mean that the ethic should necessarily make use of philosophical methods that make it difficult to create ethical systems and theories, such as the poststructuralist framework analyzed above.

Indeed, this critique extends not only to post-humanist ethics but also to the larger project of crafting a post-humanist philosophy, as Wolfe (2010) argues that the third project of creating a post-humanist theory cannot be based on deconstruction alone but that such a project needs "the reconstruction of deconstruction" or the wedding of deconstruction to a theory that is conducive to the creative project of concept and system formation (Wolfe, 2010, p. 8). Such a theory would have to accept that metaphysical objects both order our reality and are formed out of a multiplicity of possibilities and are thus always open to critique. Thus one of the main challenges faced by post-humanism is the practical methodological problem of how to craft ethics that can be used to guide action and post-humanist philosophies that form the frameworks for such ethics.

In addition to the work of Oliver (2009) on crafting an animal ethic, Wolfe (2010) in particular has risen to the challenge of trying to envision what a post-humanist philosophy would look like. Specifically, after critiquing and setting aside work by feminist philosophers of science, such as Haraway and Harding, Wolfe (2010) returned to post-humanist's roots, drawing on a theoretical tradition that was born during the Macy Cybernetics Conferences from 1943-1955: Namely, second order systems theory (SOST) or second order cybernetics developed by Niklas Luhmann, Humberto Maturana, Francisco Varela, and Evan Thompson (Nayar, 2014). Rather than focusing on individual entities, SOST focuses on the flow and patterns of information to and from the environment and other information processing nodes or entities that make up larger systems (Nayar, 2014). These systems are autopoietic or literally "self-creating,"

as components (such as humans, animals, and technology) continually recreate, realize, and constitute the network through their varied interactions. Such systems form a "unity" that are easily recognizable, as they have clear boundaries that separate systems from other systems and the larger environment. In addition, they become more complex as they participate in "symbiogenesis," or the incorporation of other systems, and "symbiosys," or the creation of relationships between various species and technologies (Nayar, 2014).

When analyzed from a systems perspective, key philosophical terms such as "autonomy," "consciousness," and "self" essentially break down. For example, components of systems cannot be considered fully "autonomous," as they are nodes in a larger system and are guided by and recreate this larger structure. Though, these nodes also inform future structure of the system. In addition, properties, such as "consciousness" and seemingly solid entities, such as the "self," are the result of embedded systems that emerge from interactions between various biological, social, and technological segments of the world and thus are considered "emergent properties." In such systems then, the human is not an autonomous "I" but "is a congeries, a moment in a network... situated in a continuous feedback loop in which information flows into, out of and across the human and the environment" (p. 35-37). In Wolfe's (2010) view, autopoietic systems both break down humanist assumptions and are excellent at handling complexity and difference or alterity, as SOST focuses on interconnection, mutualities, and co-evolution that crosses a myriad of boundaries (Nayar, 2014).

Concerning complexity, Wolfe (2010) argues that, while first order systems theory is problematic (see Haraway's and Hayle's critique), SOST provides a strong post-humanist theoretical framework, as it breaks down key humanist concepts and can be viewed as a "reconstruction of deconstruction." (p. 8). For Wolfe, SOST "does not occlude, deny, or

otherwise devalue difference but rather begins with difference-- namely... the difference between system and environment" and thus is compatible with deconstruction" (p. 14). As environments are always overwhelmingly complex and it would be impossible for systems to correspond point by point to such complex environments, systems handle complexity through the process of reducing this complexity by being selective concerning what attributes of the wider context are incorporated into the system itself. Luhmann writes "the system's inferiority in complexity must be counter-balanced by strategies of selection... complexity, in this sense, means being forced to select... only complexity can reduce complexity" (quoted in Wolfe, 2010, p. 14). Responding to the complexity of the environment translates into system's building internal complexity by both closing off from the wider environment and recreating the system/environment distinction within the system itself (p. 14-15). For example, the educational system has now itself become an environment for subsystems called disciplines that are housed within it. This "openness from closure" broadens the potential for further environmental contacts and the complexity of the system. Thus, for Wolfe, SOST provides post-humanism with an adaptive framework that can handle the complexity of diverse and varied environments and that is not grounded in humanist assumptions, such as the privileging of the human subject or the human/animal binary.

If we accept Wolfe's (2010) argument to adopt SOST as the philosophical framework for post-humanism, then it would appear that the main challenge I identified (the practical methodological problem of finding a post-humanist theoretical framework) has been solved. However, I argue that there are several problems with doing so. The first set of problems is concerned with whether or not Wolfe's (1996) philosophical or theoretical framework can perform the work that he wants it to (specifically, the grounding of a post-humanist ethic or politic), while the second set of problems focus on determining whether or not SOST can

71

adequately address issues of oppression. This second set is particularly important as undermining oppression is often used as a justification for the post-humanist project (Oliver, 2009; Wolfe, 1995). Before addressing these issues, however, it is pivotal to identify exactly what Wolfe means by "theoretical framework" and what work this framework is expected to do.

Indeed, as early as 1996, Wolfe argues that "no project is more overdue than the articulation of a post-humanist theoretical framework" (p. 33). Again, in 2010, he built on this initial argument, arguing that second order systems theory is compatible with Derrida's writings and the wedding of these two schools is conducive to the creative project of concept and system formation (Wolfe, 2010, p. 8). However, what does Wolfe mean by "theoretical framework for politics and ethics" here, as there are several possible definitions of this term? Is a theoretical framework a "vision" that should guide research? Is it an epistemology that helps ground methodologies that are then used to guide methods of doing philosophy, such as crafting an ethic? Is it a method of creating concepts and systems? Wolfe (2010) himself states that it is a mistake to think that SOST offers prescriptions about how the world should be. In actuality, it only provides descriptions, "or describes how difference and complexity have to be handled by systems that hope to continue their autopoiesis" (p. 14). If SOST merely provides a possible description of how the world functions, then Wolfe's definition of a theoretical framework should be understood as a type of structure formulated in order to explain or understand phenomena. Rather than a methodology, it appears to be more akin to a world view. SOST then provides a vision or theoretical "model" of the world that is then used to better understand processes and phenomena.

Interestingly, though, this descriptive theory also includes an epistemology (not grounded in ontological claims) concerning how knowledge claims are developed. This is clear in the

following passage where Wolfe (1995) provides a description of SOST as a descriptive frame: "The particular suppleness of... [SOST as a] descriptive apparatus, then, is that it provides us with 'a philosophical system, a reductive system,' as Varela, et al. put it, 'in which reductive basic elements are postulated as ultimate realities but in which those ultimate realities are not given ontological status in the usual sense" (p. 56). If one adopts SOST as a theoretical framework, then this necessitates the acceptance of a radical epistemic shift where the "embodied quality of all knowledge" is not noise that hides the true essence of a phenomena but is where we are situated and how we arrive at knowledge, as we are units without ontological substance whose existence is made possible only by self-reference (p. 55). Wolfe (1995) goes on to argue that SOST emphasizes the "radical contingency of observation, the embodiment of knowledge, and the irreducible complexity of system description which flows from both" (Wolfe, 1995, p. 60). This "descriptive apparatus" then clearly includes epistemological commitments concerning how knowledge claims are created and work in systems that, as will be discussed below, impact standards of justification and analysis.

While I will not recreate Wolfe's (1996) entire argument here, this epistemological shift has the unavoidable consequence of a loss of meaning, as it thoroughly contextualizes and de-ontologizes truth claims. Specifically, the theory includes the claim that various domains that rely on referencing independent reality, such as the domain of science, only function due to standards accepted and imposed by observers operating in this domain without reference to some independent reality. Observation and explanation of various phenomena generate a relationship between "non-intersecting domains," or the system that operators making observations are situated and the larger environment that is connected to yet independent from this system (p. 59). Thus it is impossible for the sciences to point towards an independent reality making

73

"objectivity" impossible. For this reason, SOST as a descriptive model includes epistemological commitments that undermine any criteria of justification, be that objectivity or basic logical criteria, that make reference to an independent reality beyond the system. Thus it includes epistemic prescriptions.

This important point is also illustrated in the section where Wolfe (1995) argues that, due to some potential problems, SOST needs to be reframed using the work of Merchant (1993). Specifically, the descriptive apparatus should be visualized as a type "reconstructive knowledge," based on "principles of interaction (not dominance), change and process (rather than unchanging universal principles), complexity (rather than context-free laws and theories), and the interconnectedness of humanity with the rest of nature" (Merchant, 1993, p. 107). Interestingly, the work of Haraway and Latour influenced the creation of new methods and methodologies used in new areas of social research, such as in Multispecies Ethnography, grounded in an epistemic landscape that accepts some of the claims above, though not the abandonment of objectivity (Kirksey and Helmreich, 2010). This passage and recognizing the ability of these basic epistemic principles to guide methods of inquiry illustrate how, contrary to Wolfe's (2010) claim that SOST offers description and not prescriptions, the framework also includes an epistemology that simultaneously critiques objectivity and prescribes criteria for the production and evaluation of knowledge claims.

For this reason, I argue that SOST includes basic metaphysical and epistemological commitments that may make the practical process of ethic and politic formation difficult. First, SOST places epistemology before metaphysics as the theory includes the claim that we cannot reference ontological objects or "reality" outside of the system, thus problematizing "objectivity" as a criteria of knowledge. Here SOST accepts the same metaphysical commitments that the

larger post-humanist project accepts: Namely, that knowledge claims, ontological objects, and models of subjectivity are socially constructed, or in this case, at least partially constructed by the systems where they are made. These commitments alone may not undermine the practical projects of ethics and politics; as feminist philosophy of science has long recognized how "facts" are socially constructed. However, the accompanying epistemological commitment that we cannot point to or reference a "reality" outside the system coupled with the breaking down (rather than reformulation common in feminist philosophy of science) of criteria used to create and evaluate knowledge claims problematizes the project of crafting ethics and politics, as the framework provides no epistemological tools to build and evaluate premises. Thus SOST may not be able to do the work that Wolfe wants it to do; specifically, the creative project of concept and system formation, such as crafting a post-humanist politics and ethics.

This issue is clearly illustrated in Wolfe's (1996) work and in the work of Maturana and Varela (1992) when they argue the following:

> "If we know that our world is necessarily the world we bring forth with others, every time we are in conflict with another human being with whom we want to remain in co-existence, we cannot affirm what for us is certain (an absolute truth) because that would negate the other person. If we want to coexist with the other person, we must see that his certainty-- however, undesirable it may seem to us-- is as legitimate and valid as our own... Let us not deceive ourselves; we are not moralizing; we are not preaching love. We are only revealing the fact that, biologically, without love, without acceptance of others, there is no social phenomenon" (p. 246-247).

Wolfe (1995) simultaneously identifies the above passage as one that contains an ethical imperative, while critique it as coming from a humanist standpoint built on a faith in the power of reason to change social and political spheres (p. 61). Regardless of this critique, what I find interesting in the above passage is the leap from the epistemological claim that we cannot access absolute truth to the ethical mandate that we must therefore accept all views as equally valid. This leap illustrates how the above epistemological commitments problematize the practical

projects of ethics and politics, as it makes possible a form of radical relativism where all views can be taken as equally valid.

It is important to note here that Wolfe (1995) resists this ethical turn, drawing on feminist philosophy of science's insight that "that all points of view are not equally valid precisely because they have material effects whose benefits and drawbacks are distributed asymmetrically in the social field" (p. 31). Falling back on a pragmatic notion of knowledge, Wolfe argues that doing away with objectivity and validity in favor of the social construction of knowledge insists upon the justification of knowledge claims. After going on to critique other potential ethics coming from SOST, Wolfe ends by arguing that these ethics "fail," due to "left-over" humanist assumptions in their discourse. While SOST ethics fail, their epistemology provides opportunities to craft a truly post-humanist ethic. However, this final claim is not justified, as it is preceded by examples of failed ethics grounded in an SOST framework.

In fact, the above outline of Wolfe's critique illustrates precisely how post-humanist commitments coupled with the dismantling of criteria of justification combine to make the crafting of a post-humanist ethic impossible. For example, Wolfe (1995) argues that doing away with objectivity and validity in favor of the social construction of knowledge insists upon the justification of knowledge claims. However, what does this mean if humanist baggage includes faith in the power of reason to change social and political spheres? To put it more broadly, what does philosophical, ethical, or political argument look like if we do away with tools of argumentation that place a premium on reason and its power to enact social and ethical change? The basic commitment of post-humanism to undermine a "humanist subject" with the features of rationality, autonomy, agency, and authority (Nayar, 2014) coupled with the accompanying epistemological commitment that we cannot point to or reference a "reality" outside the system

76

and/or the total breaking down of criteria used to create and evaluate knowledge claims leaves no tools to create an ethic. Falling back on the social construction of knowledge does not fix this problem, as the social justification of knowledge claims must always fall back on the particular epistemic communities' agreed upon criteria of justification, such as the criteria of adequacy, the law of non-contradiction, or various instantiations of "objectivity" (while some are socially situated, all place a premium on reason) (Zagzebski, 1996). It comes as little surprise then that this particular framework has failed to produce a workable ethic in the nine years since it was introduced.

In reply, Wolfe could argue that his definition of "philosophy" or "ethics" differs from mine and thus the critique fails because I misunderstand Wolfe's larger project. While I may accept a model of philosophy that aims at "truth" or that follows Priest's (2006) model of philosophy of an activity that includes the project of critique and the creative project of crafting new ideas, systems, or models of the world and its various features, post-humanists have a markedly different understanding of philosophical discourse. As discussed above, for Wolfe (2008) and Diamond (2008), philosophy is not about refining philosophical concepts, clutching at reality via analytical categories, or crafting better propositional arguments. In contrast, philosophy means receiving and suffering "our exposure to the world" because being confronted by mortality and shared vulnerability is a necessary part of being an embodied creature. Rather than epistemology, this vulnerability is the starting point of philosophy.

However, what does this mean exactly? In his treatise on creating a philosophy post-skepticism, Wolfe (2008) argues that analytic philosophy fails precisely because it misunderstands how language works. His critique appears to be referencing a concept of philosophy greatly influenced by Derrida's philosophy of language. In fact, according to Priest

(2006), some philosophers, such as Rorty (1978), often take this work to imply a particular view concerning the inherent features of philosophy. As Wolfe makes use of both Rorty and Derrida, a peculiarly postmodern view of philosophy could be influencing his work; a view that is at odds with analytic projects.

Interestingly, Priest (2006) points out how Derrida's theory of language counters the view that philosophy is an activity that aims at getting at the "truth" when investigating topics, such as justice, law, or testimony. If texts have "no determinant meaning, then there can be no determinate truth either. Such cannot, therefore, be the nature of philosophy" (Priest, 2006, p. 197). Rorty (1978) argues that this means that philosophy is a form of writing and the field of philosophy, a collection of interrelated texts. "Philosophy" is simply a signifier used to identify a body of texts that discuss Kristeva, Plato, Descartes, and others of that sort. For Rorty then, "philosophy is best seen as a kind of writing. It is delimited, as in any literary genre, not by form or matter, but by tradition" (p. 91). The consequence of this view for Rorty is that no linguistic activity is truth-seeking, be that philosophy or mathematics or science. Theories coming out of these disciplines produce stories and not facts.

When viewed from this position, the strategy that post-humanists adopt of locating truth beyond the linguistic realm makes sense. If no linguistic activity is truth-seeking, then a philosophy aimed at coming to truth is already doomed to fail. The activities of critique and the constructive project of crafting new ideas are at best story-telling exercises. However, Priest (2006) argues that there are two problems with this position. First, if all linguistic activities are not truth seeking activities, then neither is scientific inquiry of mathematics. However, while not specifically searching for the Truth, these fields use "standards of objectivity and applicability that work in those areas, and that are not applicable to fiction" (p. 199). An antidote for a

78

venomous snake bite made according to modern standards of medicine will work, while one made using principles of alchemy will not. Thus, even while not engaged in truth-seeking, activities with tested standards of justification create knowledge claims, practices, and products that largely work. This is markedly different from fiction. Second, it does not follow from Derrida's theory of meaning that "language is not truth-seeking," as the argument that there is no determinate meaning or truth does not mean that there is no truth (p. 199). Priest (2006) presents this point eloquently when he writes the following:

> "After all, even Derrida thinks that words are meaningful-- and explains how this is so. And if they are meaningful, there is, presumably, a corresponding notion of truthfulness. Sentences may come to be true, or cease to be true, as they change their meanings; but they can express truths non the less" (p. 199).

Priest (2006) ends by arguing that this model of philosophy is itself self-refuting, since the way that Derrida and Rorty (and now Wolfe) do philosophy conflicts with the way that they say philosophy should be carried out (p. 200).

Thus, one could argue that a philosophical project, such as post-humanism, built on the above Derridian view of philosophy is also doomed to fail, as it does not take into account how standards of justification work in literature, how meaning corresponds to "truth," and the methods philosophers themselves use to craft their philosophical texts. A philosophical project that implicitly accepts a model of philosophy where no linguistic activity is truth-seeking (or aims at a potential truth or at the least wrong statement, as scientific inquiry does) will necessarily locate the ethical project in experiences that defy propositional form. In addition, when this view is coupled with epistemological commitments that undermine (without replacing or revising) epistemic communities' agreed upon criteria of justification and faculties of reason, one will find it difficult to craft an ethic or politic that can be communicated and justified to the larger communities of people meant to follow these ethics. It seems that we are back with

Derrida (2001), torn between "hyperbolic ethical visions" and pragmatic processes aimed at social change or stability. Here again, it appears that, the main challenge faced by post-humanism is the practical methodological problem of how to craft an ethic that can be used to guide action and post-humanist philosophies that form a workable framework for such an ethic. As will be discussed further in the next chapter, feminist philosophy of science can help further this project, as the field has experience creating alternative epistemologies with a proven track record of informing ethical and political projects.

3.4 Untying the Gordian Knot: Post-humanism and Oppression

While we've addressed a first set of problems with SOST itself, a second set of problems concerns whether or not adopting SOST as a theoretical base will address issues of oppression, as this project is widely held by post-humanist's as a justification for de-centering humanist conceptions of man. To begin, let us meet Wolfe halfway and accept his arguments that SOST is the best possible theoretical foundation for a post-humanist philosophy. Wolfe (2010) seems to think that adopting a theoretical framework not built on the human/animal divide or the privileging of the autonomous human agent will help to re-situate the human and thus contribute towards dismantling systems of oppression, as humanist discourse has been historically deployed against other humans with the single purpose of oppressing various groups (p. 36). Wolfe identifies these effects in the following passage:

> "It should not be assumed, however, that the ethical and political stakes in this boundary erosion are limited to the well-being of nonhuman animals alone. Indeed, the imperative of post-humanist critique may be seen from this vantage... as of a piece with larger liberationist political projects that have historically had to battle against the strategic deployment of humanist discourse against other human beings for the purposes of oppression" (p. 36).

To put it simply, for Wolfe then, as SOST is not built on the human/animal divide or privileges the autonomous human, it could provide the theoretical framework necessary to guide

ethics/politics into a post-oppressive age. However, there are several potential problems with this argument.

First, there is the general problem of whether or not dismantling the humanist subject will have the desired effect of undermining oppression writ large or change the ethical stakes for non-human animals. Indeed, Wolfe (1995) himself pointed out that Foucault conceives the end of humanism as harkening in a dystopian age where the social sphere is fully saturated by oppression, domination, and power (p. 34). Logics of domination have many moving parts. It is true that a dualism forms the first premise of this logic but, for some schools of feminism (such as ecofeminism), difference does not entail the leap to a justification of domination. For example, a simplified logic of domination goes as follows: If group A is inferior to B, then group B is justified in dominating group A (Warren, 2000). Here dualisms, such as human/animal or nature/culture, may have ontological significance, in that they help order the world around us, but the second step of arguing that A is inferior to B and the conclusion that B is therefore justified in dominating A are both required for oppression to become a possibility. While I understand that Wolfe was influenced by Derrida's (2001) argument that difference entails violence, I argue that challenging the humanist subject by problematizing the human/animal divide may not be enough to change the ethical and political stakes for non-human animals. This is especially the case for post-humanist work that does not attempt to erase difference but to build an ethic between sameness and difference. Thus further work may be needed, work from a branch of philosophy focused on the study of logics of domination, such as various forms of feminist theory.

Second, there are the more specific problems concerning SOST itself. For example, while poststructuralism may bypass the ideal model pitfall, this does not automatically mean that SOST

is free from this critique. If SOST is an ideal model, then it could include ontological assumptions that open up the framework to the blindness to oppression pitfall. As discussed above, ideal theory 1) starts inquiry from idealized models rather than the phenomena studied and 2) is built on a process of abstraction. Wolfe (1996; 2010) argues that we should adopt SOST as "a post-humanist theoretical framework" (p. 33). If he means here that SOST should be used as a tool or model from which to make sense of phenomena or frame ethical and political projects, then he may be advocating starting inquiry or philosophy from this model, rather than from the phenomena studied, thus fulfilling criteria one above. At the very least, the model will "frame" such inquiry as this is what frameworks do.

Concerning the second criteria, Wolfe (2010) himself states that systems theory is highly abstract, as it focuses on the flow and patterns of information to and from the environment with humans, animals, technology, and other individuals that make up such systems conceived as "information processing nodes" (Nayar, 2014). In addition, the model itself describes how systems deal with complexity through the selective abstraction of aspects of the wider environment. SOST handles difference by essentially erasing it through abstraction. Nayar (2014) writes that "critical posthumanism is about greater inclusivity, interconnections, co-evolution and mutualities. This new vision of the human.... [is one where humans are understood as] co-evolving, as an instantiation of a network of connections and exchanges and as embodiment embedded in an environment" (p. 35). In addition, SOST handles complexity through the selective idealization of systems that then become, in a sense, 3D models that humans and other agents physically navigate, models closed off from yet connected to wider environmental phenomena where all activities (including inquiry, philosophizing, courting, and even making dinner) are dictated by its structure.

82

Thus this model encapsulates at least the two following levels of abstraction: 1) it is itself an ideal model used to explain phenomena and thus could be open to potentially problematic commitments beyond humanist commitments and 2) if we accept this model, it then frames systems in such a way where they are also types abstracted models with their own ontological and epistemological commitments. Thus SOST (and the systems described by this model) could potentially fall into the blindness to oppression trap discussed in chapter one, as this model stands as a stagnant lens formed in a specific way (with its own assumptions) from which we now interpret key contextual factors, such as the history of domination, coercion, and other social factors. As Wolfe (2010) himself argues, epistemologies always do "work" for particular groups of people. In the same vein, one could argue that theoretical frameworks always "frame" for particular groups of people. This critique raises the following question: Does SOST contribute to oppression or domination beyond that potentially caused by humanist concepts of "man"?

Wolfe could reply here that this is precisely why we need to wed SOST with poststructuralist critique. However, as discussed above, this framework's strategy for addressing difference and complexity involves creating further complexity only within the already idealized systems that themselves treat various agents (be these human, animal, or technical) as nodes or components. This move could be interpreted as undermining the full power of poststructuralist critiques of the human/animal divide. Instead of building upon Derrida's (2001) argument that distilling all animals into a single category against "man" is a form of violence, SOST essentially collapses the multiplicity of all beings on both sides of the dichotomy into a single category: Components of systems. While these components play different roles (and are thus multiple), they all continually recreate, realize, and constitute the network through their varied interactions.

It is in this way that SOST decenters the humanist subject. However, here one could argue that the distillation of people into "nodes" in systems (be these continually changing nodes or not) is not the acceptance of difference but an eraser of difference that could further reinforce the process of violence, open up violence and oppression to a wider circle, and potentially lead to the dystopia Foucault (1984) and later Merchant (1993) warned about.

This leads us back to the question above of whether or not SOST or, indeed, abandoning a humanist conception of the subject, contributes to oppression or domination. Wolfe (1995) recognizes the second point as a potential problem when he argues the following:

> "it is understandable that traditionally marginalized groups and peoples would be loath to surrender the idea of full humanist subjectivity, with all of its privileges, at just that historical moment that they seem poised to 'graduate' into it. But... it is not that we have a choice about the coming of post humanism; it is already upon us" (p. 36).

Here Wolfe acknowledges the issue but then side steps addressing this critique, as he sees post-humanism as a given that we must then adapt to. While Wolfe does not mention this, SOST is also open to above critique, as it does not privilege the autonomous human, nor is built on the human/animal divide, as all are simply components of various systems. In fact, Wolfe argues that this is precisely the reason why SOST is better than all other potential theoretical frameworks. Thus, in SOST, "humanist subjectivity" is a property that nobody possesses. If nobody possesses such a property, then the fail-safes of theories of justice, politics, ethics, morals, law, property rights, etc built to work in a human sphere or system that is made up of human agents distinct from, yet connected to, the natural environment (according to SOST) would essentially be eroded. Viruses living in our bodies, technology that we use to enhance our senses, and cockroaches in cities could potentially have the same standing as humans, thus breaking down the very ethical and political systems that post-humanists want to recreate. The above critique illuminates how this breaking down could lead to unintentional negative consequences. Thus the

application of post-humanist theory and/or SOST in the realms of ethics and politics may have negative impacts for various groups made up of human animals.

For Wolfe (1995), the ethical question for post-humanism "is not who will get to be human but what kinds of couplings across the humanist divide are possible and indeed unavoidable when we begin to observe the end of Man" (p. 35). While this an important post-humanist question, this is not an ethical question. If post-humanists are correct that the human/animal/technological boundaries are already eroding, then a plethora of couplings are already being created. Rather than cataloging various couplings, a better ethical project found throughout post-humanist literature concerns absolving the oppositional logic that human's use to justify enslaving, imprisoning, using, or eating non-human animals and various "others," be those human, animal, machine, or hybrids (Oliver, 2009). As illustrated by the overview of post-humanist theory, this task involves critique and crafting theoretical foundations, epistemologies, and future ethics and politics that relocate the human, opening up "response" beyond the realm of humanity. In addition to the task of finding methodologies and theoretical frameworks that can ground these projects, another future project for the field should include determining what aspects of humanist concepts of "man" we should keep, such the reliance on rational discourse, and determining which ones contribute to oppression and domination. While this may be an impossible task, as facilities like concepts of justice and love are applied in messy contexts and thus are always open to the possibility of causing harm, it is an important task nonetheless. In the next chapter of this dissertation, I argue that feminist philosophy of science can help with this project and open up areas of future growth for the field, making the twin projects of building a post-humanist ethic and politic possible.

Chapter 4: Animal Minds and Feminist Philosophy of Science

The previous chapters of this dissertation identified metaphysical, epistemological, and methodological weaknesses in the fields of animal metaphysics and post-humanism. For example, in animal metaphysics, I argued that key criteria (the criterion of simplicity, Morgan's Law, etc) often play important roles in this literature, such as when theorists decide on which questions to explore, during the analysis of findings, and when critiquing competing theories of animal cognition. However, this can be problematic as values and implicit assumptions often influence the application of such criteria (Andrews, 2011; Fitzpatrick, 2009). Similarly, the analysis of post-humanism illustrates how basic metaphysical assumptions make it difficult for the field to move beyond critique in order to create a theoretical framework for post-humanist ethics and politics. Additionally, Wolfe's (1995) attempt to craft a framework using systems theory has largely ignored potential problems of application, especially concerning historically oppressed groups. This chapter builds on these analyzes, arguing that feminist philosophy of science can help address pitfalls in both fields. Specifically, concerning animal metaphysics, I argue that feminist philosophy of science is uniquely equipped to better understand and address key tensions in the field and open up areas of future growth. Concerning post-humanism, I argue that feminist philosophy of science has valuable tools that can help the field find a theoretical framework, making the twin goals of building a post-humanist ethic and politic possible. However, before presenting these arguments, it is important to provide a brief overview of feminist philosophy of science and outline reasons why this field is uniquely capable of furnishing insights useful for work on animal capabilities.

As discussed in chapter one, feminist philosophy of science focuses on how gender

influences our conceptions of knowledge and the practices of knowledge formation and justification (Richardson, 2010). It is a multidisciplinary branch of feminist scholarship that began in the 1960s with the goals of critiquing sexist science, advancing women in the sciences, and critically evaluating methods of scientific inquiry (Richardson, 2010, p. 337). The field actively creates new epistemologies and reforms aspects of dominant modes of inquiry so that they serve the interests of underrepresented groups (Anderson, 2015). As Richardson (2010) so aptly notes, "feminists have forged scholarship that explicitly reflects upon the ethics and conditions of academic knowledge production, is grounded in the experiences and knowledge of subordinated peoples, and advances research and values associated with emancipatory politics" (p. 346). Thus feminist philosophy of science contributes to both the project of critiquing the natural and social sciences and the creative project of building new epistemologies to form the foundation of feminist scholarship (Richardson, 2010). For these reasons, I argue that tools/lenses developed in this field can be particularly valuable for work on animal minds, as the field addresses problems similar to the pitfalls concerning animal metaphysics and post-humanism, pitfalls that I identified in the earlier chapters of this dissertation. As will be illustrated, it can add to the critical project of identifying how values guiding the application of various scientific criteria and embedded in individual criterion may negatively impact marginalized groups, those of both human-animal and nonhuman-animal persuasion. In addition, as this school of thought has a long history participating in the creative product of crafting new epistemologies, the field can provide tools and insights useful for the creative project of crafting new methodologies. The next section of this chapter applies the above insights to animal metaphysics.

4.1 Animal Metaphysics and Feminist Philosophy of Science

First, work in feminist philosophy of science could be helpful for better understanding the nuances of the discipline specific tension in animal metaphysics. I argued in chapter two that key metaphysical and epistemological commitments inherent in the following predominant approaches divide the school of animal metaphysics: 1) Approaches that posit intentionality or use analogical inference and 2) approaches that start from a position of skepticism or the position that we should only accept justified propositions as starting places for inquiry. The first approach accepts the metaphysical claim that we can gain knowledge of the subjective but does not accept the ontological separation of humans from all other animals. In contrast, the second approach is dubious or skeptical of this starting point and is built on the assumption that humans and non-human others are ontologically different or that we should not posit likeness without justifiable evidence. Thus the main tension in the field appears to revolve around the choice to either start inquiry from a position that posits human/non-human likeness or from a position that accepts a commitment to the ontological difference between humans and non-human others.

When analyzed using insights from feminist philosophy of science, this tension appears to be caused from the following problem: The first set of approaches (that posit intentionality) utilize alternative conceptions of knowledge and do not accept basic commitments found in a traditional conception of "objectivity," while the second set of approaches (built on ontological difference) attempt to uphold this conception of "objectivity," one that is still prevalent in analytic philosophy and the sciences (Harding, 1993). For over two decades' feminist theorists have had complex and often heated discussions regarding objectivity (Worley, 1995; Harding, 1993). While we will not get into these discussions here, a brief overview is important for addressing the main tension above.

According to Bordo (1987) and Keller (1985), the traditional conception of objectivity has both a metaphysical and an epistemological component. The epistemological component consists of the idea that theories and facts must reflect reality as "it actually is" or uncontaminated by human desires, subjectivity, and interests (Worley, 1995; Keller, 1985; Bordo, 1987). This component is built on the metaphysical claim that mind and body are separate, a preference for the mind (as the senses are fallible), and the claim that the best way to obtain such knowledge is through the intellect alone. The metaphysical component consists of the claim that there is "a sharp separation between the knower and the world, so that the knower is... distinct from and independent of the world" (Worley, 1995, p. 139). In epistemologies that accept traditional objectivity, knowledge is thought to be obtainable but only after purifying the intellect of all subjective influences and biases.

With this definition in mind, the tension in animal metaphysics becomes clear. Approaches that posit intentionality or use analogical inference begin from a position that is already "contaminated" or one that has broken one of the fundamental components of traditional objectivity. For example, as illustrated in chapter two, the main critique of these approaches revolves around the claim that every member of the class of propositions regarding animal minds cannot be justified without an appeal to either an anthropomorphic claim or to the inference that behavior is caused by mental states. For these critiques both anthropomorphic claims and behavioral inferences are considered to be types of "bias," as the claims do not come from "good reasoning" but simply from intuition or sense data. In addition, this approach commits a metaphysical error, in that the starting claim undermines the assumed division between the knowable (nature) and the knower (mind) and the basic assumption in scientific approaches, according to Keller (1985), that the relation "between knower and known is one of distance and

separation... It is that between a subject and an object radically divided" (p. 79). However, positing intentionality and/or "human" characteristics to nonhumans is built on the opposing metaphysical assumption of a connection between knower and known. Thus, from an "objective" point of view, such claims are both biased and commit the more problematic sin of breaking a foundational metaphysical claim of objectivity.

This illuminates two contributing factors at the heart of the current tension in animal metaphysics: 1) Commitments built into criteria, such as those identified above concerning objectivity, and 2) commitments that guide the application of criteria. While animal metaphysicians, such as Andrews (2011) and Fitzpatrick (2009), are beginning to explore how values and metaphysical commitments influence the application of criteria, little work is being done in the field critiquing the criteria themselves. This is another area where feminist philosophy of science may be useful, as theorists working in this field have long recognized that basic concepts used to guide scientific practice do not escape critique. In fact, theorists, such as Keller (1985), Bleier (1984), and Rosser (1990), have put forth critiques of traditionally held scientific principles (such as simplicity, explanatory unification, and consistency) and argued that they should be replaced with principles informed by values better suited to help scientific fields recognize bias and move beyond their sexist past (Kourany, 2010; Longino, 1994). As illustrated above, such concepts are not value free but include various commitments that influence all stages of scientific research, such as the commitment to a sharp separation between the scientist and the "object" of study (Keller, 1985). This also holds for key principles used in animal metaphysics, as various conceptions of objectivity and Morgan's Law include these types of commitments. Thus theorists approaching questions concerning animal capabilities from a position of skepticism may not be shielding themselves from potential bias. In fact, they may be susceptible

90

to critiques these very same skeptics have levied against approaches grounded in folk psychology.

This could be understood as a purely methodological issue, as Sober (2005) and Andrews (2011) argue. However, the major sticking points causing tension appear to be more complicated. Indeed, as illustrated above, the tension in animal metaphysics appears to be three fold: It is methodological, as incompatible methodologies are being employed by theorists working on problems concerning animal capabilities; it is epistemological, as each of these methodologies accept different conceptions of what constitutes acceptable knowledge production (what is a good starting point for research, when is research biased, etc.); and it is metaphysical, as the epistemologies (and theorists applying criteria) accept particular conceptions concerning what types of creatures animals are, human relationships to non-human animals, and the scientists' relationship to her object of study.

While this appears to be an irreconcilable tension in animal metaphysics, here one could argue that, as with issues of application (tension 2 above), theorists in the field are already working to address this issue. For example, Sober (2005) provides a potential solution in the following passage:

> "They say that some hypotheses should be presumed innocent until proven guilty, while others should be regarded as having precisely the opposite status. Perhaps these default principles deserve to be swept from the field and replaced by a much simpler idea-- that we should not indulge in anthropomorphism or in anthropodenial until we can point to observations that discriminate between these two hypotheses. It is desirable to avoid the type-1 error of mistaken anthropomophism, but it is also desirable that we avoid the type-2 error of mistaken anthropodenial" (pg. 85-99).

While at face value this facile solution appears to address the tension, Andrews' (2011) argues that anthropomorphism contributes to a "behaviorist bias" in animal metaphysics or the inability to do the research necessary to determine whether or not non-human animals in fact have various

cognitive faculties. If this is the case, then simply remaining neutral, as Sober argues may not be enough to address the above tension. Similarly, if claims of anthropomorphism are used to shut down research projects or discredit findings, then neutrality may also prove to be difficult. Thus, rather than taking a neutral stance, as illustrated by the application of feminist philosophy of science above, I argue that the field needs to review and potentially revise key criteria that may be implicitly producing harmful biases, such as the behaviorist bias. This strategy may help the field address the tensions between approaches and move forward as a discipline.

For example, the claim that work violates Morgan's Law is the dominant critique levied against studies that begin from a position that accept intentionality (Andrews, 2011; Fitzpatrick, 2009; Sober, 2005). However, this law is itself not free of bias, as it includes key value and metaphysical assumptions. As discussed in chapter one and two of this dissertation, Morgan's Law (Morgan, 1903) is a law or principle that mandates that all animal behavior must be interpreted in the least psychologically complex manner, as this will guard against scientists and philosophers (as Morgan addressed both groups in his original treatise) committing the type-1 error of anthropomorphism. More specifically, the law goes as follows: "In no case is an animal activity to be interpreted in terms of higher psychological processes if it can be fairly interpreted in terms of processes which stand lower in the scale of psychological evolution and development" (Morgan, 1903, p. 59). Morgan believed that studies/arguments concerning animal capabilities that accept or initially posit anthropomorphic assumptions are problematic, as these lifeforms are primitive, in that they cannot reason. Since animal behavior can always be understood in ways that do not posit intentionality, then any studies/arguments that utilizes methodologies or premises grounded in folk psychology are biased (Lurz, 2009; Bermudez, 2003). When looking at Morgan's original text, the justification for his law appears to be built

92

with a highly limited concept of reason and through the use of shaky argumentation. For example, Morgan (1903) argues the following:

> There is no doubt that animals not only profit by past experience but they can apply this experience to concrete situations as they severally arise... If then behavior which is the outcome of concrete sense-experience, is placed in the same category as rational conduct based on conceptual thought which results from the analysis of experience and the synthesis of ideal construction, we must freely admit that animals can and do reason. But I have used the term reason in a more restricted sense... He [a human], we say, reasons because he analyzes the process and how it is done... But there are no grounds for supposing that in the chicken or the horse there is any development of analysis (p. 287-290.

Morgan goes on to argue that, as no current scientific studies show any sign that animals in fact have this higher order capability and it is impossible to determine whether or not animals have this capacity, as we cannot determine what's in an animal's mind. Thus in no case is an animal's behavior "to be interpreted in terms of higher psychological processes" (p. 292). To put it more succinctly, Morgan's entire argument justifying his law goes as follows:

> a) Reason is the ability to intentionally analyze
> b) No scientific work supports the claim that animals can intentionally analyze
> c) We cannot determine whether or not animals can analyze, as we cannot see into animal minds.
> d) Therefore, when interpreting animal behavior, we should never posit higher order thought processes, such as the ability to intentionally analyze

Here Morgan adopts what amounts to a higher order definition of reason, then uses b) and c) to justify the conclusion that we should not attribute higher order psychological processes to animals. He himself states in the text that his definition of reason draws directly from metaphysics, as it is grounded in grasping concepts or principles in their most abstract form (p. 290). Thus he begins his argument with an explicitly stated metaphysical claim regarding what reason is and implicitly held commitments regarding what humans are (as reasoning beings who can perform these higher order processes) and the acceptance of a metaphysical separation of kind between humans and animals. Indeed, this metaphysical conception of separation between

humans and animals (or scientist and the object of study, in the words of Keller) forms an important part of his justification for his law. It is precisely this perceived difference that lends c) it's force, as it is this difference coupled with human's inability to see into another animal's mind that is used to justify the skeptical position that d) we should not posit higher order processes (or likeness) to animals. Thus he uses metaphysical grounds to argue for and justify the creation an epistemological criterion, one that is the most cited precept in comparative psychology. Finally, Morgan's (1903) argument, as it is applied today, can be considered circular, as his argument, which includes the premise that animals cannot reason, is often used to guide research and interpret the results of studies aimed at determining whether or not animals have various cognitive functions, including the ability to reason.

While Morgan's (1903) argument can be critiqued in several ways (such as that his definition of reason is too restrictive, that current research no longer supports his argument, or that we should start from a position that posits intentionality precisely because we cannot look into an animal's mind), this is beyond the scope of this chapter. The goal of the above analysis is to illustrate how potentially problematic metaphysical assumptions and propositions are built into Morgan's Law itself that could be implicitly biasing current work in animal metaphysics. Like the concept of objectivity (Worley, 1995; Keller, 1985; Bordo, 1987), Morgan's Law also includes metaphysical as well as epistemological components. However, unlike the criterion of objectivity that has undergone significant revisions (see Harding's work on strong objectivity), theorists have not yet taken up the challenge of revising Morgan's Law and various other criteria important to work on animal cognition. Similarly, while theorists working in animal metaphysics (Fitzpatrick, 2009) are beginning to recognize that criterion are influenced by various values and commitments, there is currently little work on how to address this area of potential bias. Indeed,

as this field has largely ignored social, political, and contextual factors in its search for traditional objectivity, animal metaphysics largely lacks the tools to do so. Thus there is a great deal of work to be done 1) identifying metaphysical commitments built into scientific criteria and determining how these commitments influence scientific work, in addition to 2) better understanding how implicit commitments and values influence the application of scientific criteria.

Now that we've used insights from feminist philosophy of science to better understand the discipline specific tension in animal metaphysics, it appears that we are still at the starting point, having made no progress towards potentially rectifying this issue. Indeed, the above analysis could be understood to complicate the problem, as now there is no clearly unbiased approach to use when exploring questions concerning animal cognition. We are left with the following questions: If both approaches (those that posit intentionality and those that are skeptical or make stringent use of Morgan's Law) are open to bias or begin from a biased position, then is it possible to do sound scientific research on animal cognition, research that is free of bias? If it is possible, then what approach is necessary to do so? Indeed, these are the questions that animal metaphysicians are currently attempting to answer (Andrews, 2011; Fitzpatrick, 2009; Sober, 2005), with Andrews (2011) going so far as to point towards the need for new methodologies. Rather than explore whether or not various applications of Morgan's law are or are not objective (Fitzpatrick, 2009) when attempting to address the above tension, it may be more fruitful to answer Andrews' (2011) call and draw from a discipline that has been grappling with similar questions since its inception: Feminist philosophy of science and, more specifically, standpoint theory.

As will be discussed below, standpoint theory is uniquely equipped to address the tension in animal metaphysics and the more specific questions above, as work in the field grapples with

95

issues concerning knowledge production and bias. In fact, understanding how "biased" science (in this case, scientific studies guided by the political goals of feminism) produces sound scientific results was one of the catalysts for the creation of the field (Harding, 2003). Animal metaphysics appears to be reaching a similar point of transition, as current work in this area increasingly identifies biases that play roles in the application of individual criterion and in the criteria themselves. Additionally, as argued in chapter two (and as the above analysis illustrates), animal metaphysics is also grappling with the possibility that seemingly "biased" work (studies that posit intentionality or begin from the animal's perspective) appears to be producing reliable results (see Grandin, 2005; Hayward, 2010; Kirksey and Helmreich, 2010; Kosek, 2010) and grappling with the more general question of whether or not it is possible to do unbiased scientific research on animal cognition (Andrews, 2011; Sober, 2005). In addition to these sticking points, there are also the related problems of 1) how to properly handle bias (if value-free inquiry on non-human others is impossible from a human-centered position) and 2) addressing potentially negative impacts of commitments that influence research, be that philosophical or scientific. While this may seem like an impossible position, feminist philosophers of science have experience taking these tricky issues in hand, so to speak. This next section draws upon work from standpoint theory to address the most pressing of these concerns.

      According to Harding (2003), standpoint theory developed during the 1970s and 1980s as a feminist critical theory concerned with knowledge production and practices of power. Its intent was to explain "the surprising successes of emergent feminist research in a wide range of projects – 'surprising' because feminism is a political movement and according to the conventional view... politics can only obstruct and damage the production of scientific knowledge" (p. 1). Standpoint theory can be understood as one of the three main approaches of

feminist epistemology (the others being feminist postmodernism and feminist empiricism), or the study of the ways that gender ought to and does influence practices of inquiry (Anderson, 2015). While work in this field can vary, theorists working in this area generally accept that knowledge is socially situated (or that knowledge cannot be divorced from the particular perspective of the knower) and that some standpoints, such as those occupied by marginalized groups, can provide an epistemic advantage, in that they provide access to previously suppressed truths. Harding (2003) states this last point succinctly when she writes that "social and political disadvantage can be turned into an epistemic, scientific and political advantage" (p. 7-8). The field illuminates the connections between social power, the political, and the production of knowledge. It is located between the twin pulls of the traditional epistemological commitment that abstract and universal knowledge is possible and the commitment that knowledge claims are only fully understood in the social contexts that give rise to them, as those contexts are permeated with assumptions and metaphysical commitments. Here the accepted thesis is that the ways "in which power relations inflect knowledge need not be understood as with a subjectivity that threatens their objectivity; rather that socially situated knowledge can be properly objective" (Bowell, 2014, p. 3). This positionality has helped standpoint theory to develop powerful critiques and tools useful for identifying how values and commitments influences inquiry. Today standpoint theory continues to inform and contribute to the further development of methodological and theoretical thought (p. 2) In the following sections, I argue that these contributions can both address the current tension in animal metaphysics and point towards new areas of growth in the field.

For example, adopting standpoint theory's unique conception of the subject of knowledge (as socially situated) could help address the current tension in animal metaphysics, as it is primarily a problem of bias. As discussed above, the major sticking point in the field appears to

be a conflict between approaches that posit intentionality and those that begin from a position that is skeptical of a connection between behavior and intention. As Andrews (2011) and Sober (2005) recognize in their work, guarding against bias is at the heart of this conflict in animal metaphysics. In fact, according to Andrews (2011) theorists often commit the type-2 error of mistaken anthropodenial when attempting to guard against the type-1 error of anthropomophism. The common form of this argument is a *reductio ad absurdum.* For instance, when describing this type of argument, Lurz (2009) writes that

> "After all, toy robotic dogs, computers, radios [and] heat-seeking missiles...
> behave in ways that (at times) strike us as resembling the ways that we [humans]
> behave... but few would take such resemblances alone as incontestable proof that
> these objects too act as a result of associated ideas presented to their
> consciousness" (p. 4).

In other words, we can use the same sense data used to support the conclusion that a) animals reason to support the seemingly absurd conclusion that b) heat-seeking missiles reason. Thus the argument is absurd. This *reductio* provides the foundation for the now standard view that anthropomorphism is an objectionable form of bias that should be avoided during inquiry. This trend is not new, as this same charge was levied against Hume's argument that animals can reason (Lurz, 2009). The scientific waters are further muddied if you accept Andrew's (2011) argument that the field's proclivity for type-2 errors causes a "behaviorist bias" where scientific studies (and theoretical work that uses this work) that does not take a strictly behaviorist position is marked as biased at its inception. Thus in the attempt to guard against bias (here type-1 errors), scientists and philosophers have inadvertently created a different type of bias (behaviorist) in the field. Indeed, one could argue that the original *reductio* of intentional systems theory is itself problematic, as the connection between animals and objects may be a false analogy.[11] Dennett

---

[11]It should also be noted here that Dennett (1995) also questions the *reductio ad absurdum* argument, as he argues that "a thermostat is one of the simplest, most rudimentary, least interesting systems that should be included in the class of believers" (Dennett, 1995, p. 114).

(1995) goes so far as to argue that "a thermostat is one of the simplest, most rudimentary, least interesting systems that should be included in the class of believers" (Dennett, 1995, p. 114). However, rather than attacking the conceptualization of human made machines as non-sentient, one could question the other half of the analogy, as positing a likeness between animals and machines in the face of overwhelming sense data not supporting this analogy breaks what Quine (1992) calls the requirement of inter-subjectivity. From this position it can be argued that the coupling between "animal" and "non-sentient" (or the observation categorical linking the two) is not objective (especially if the hypothesis has not been tested through experimentation). Indeed, even if there was simply a 50/50 split in sense data supporting both positions, the choice would come down to the application of principles (such as the principal of simplicity) not explicitly stated in the argument. The application of which is often guided by values (Fitzpatrick 2009). Thus, if animal metaphysics is committed to "value free" inquiry, then it will be faced with untying the Gordian knot of bias.

Feminist philosophy of science offers a solution to this seemingly untenable situation, as the field has developed epistemological concepts/principles not committed to "value free" inquiry. In fact, as mentioned above, one of standpoint theory's unique contributions is the insight that all projects of knowledge creation and the subjects of knowledge at the heart of this process are socially situated. Cultural-wide beliefs influence decisions at every stage of scientific research (Harding, 1993, p. 69). Contrary to subjects of knowledge in empiricist epistemology (or those that are conceptualized as being ahistorical, separate from the objects studied, and individual rather than social), standpoint theory offers an alternative (and more realistic) conception-- namely, one where subjects of knowledge are embodied, visible, not separate from the objects studied, social rather than individual, and multiple and heterogeneous. As Keller

(1992) argues, the practice of knowledge production always works at a specific project for a specific "we." Rather than view the above role of value and beliefs in inquiry as an argument for the impossibility of knowledge as some post-structuralists do (see Wolfe, 2008), standpoint theorists use the the inevitable social situatedness of subjects of knowledge as a resource for knowledge creation (Collins, 1991; Smith, 1974). Indeed, these accounts explain how beliefs held by subjects of knowledge often find their way into the very objects they study.

If theorists working in animal metaphysics moved away from traditional conceptions of objectivity that includes the metaphysical assumption that the relationship between the knowable and the knower is one of separation (Keller, 1985) and instead adopts a socially situated subject of knowledge, then the above tension in the field would largely disappear. Approaches that posit intentionality or analogical inference would no longer be seen as "contaminated" or as starting from a position already in opposition to objectivity. In contrast, the embodied scientist and philosopher would be able to use insights from their social situation as *starting places* for inquiry, draw upon embodied forms of knowledge, such as know-how and the senses (Dalmiya and Alcoff, 1993), and begin from a position that accepts the interconnections between the knower and the known. Thus it would address the metaphysical, epistemological, and methodological aspects of the tension, as the field would be more open to epistemologies that include a plethora of basic metaphysical assumptions that can then be used to ground methodologies that guide research projects. Rather than guarding against potential anthropomorphism to the point where the field largely accepts a "behaviorist bias" (Andrews, 2011), it could now present a more balanced position, as studies could be done to at least partially determine whether or not particular species of non-human animals have the capability of intentional action. Identifying a potential link between two phenomena (such as clouds and

100

rain or behavior and thought) is not itself biased but simply the beginning point of inquiry (Quine, 1992). However, recognizing that such inquiry is guided by what a person or community values is a key contribution of feminist philosophy of science that could make it easier to identify potentially harmful biases from those that simply guide research (such as the desire to cure cancer, send a rocket to the moon, or to determine whether or not a dog thinks).

Additionally, this shift could provide epistemological resources necessary to open up new ways of addressing problems in animal metaphysics. In fact, scientific work on animals that utilizes folk psychology is already informed by many of the above insights (see Grandin 2005, Hayward, 2010; Kirksey and Helmreich, 2010), as feminist philosophy of science continues to be highly influential in the sciences. Work in the field of animal ethnography, for example, uses methodological insights drawn from Haraway (2008) and Rose (2003) to guide inquiry in human-animal contact zones, areas where humans and other beings co-develop ecological niches and ecologies. According to Kirksey and Helmreich (2010), Haraway (2008) provides the key impetus for this work when she argues the following: "If we appreciate the foolishness of human exceptionalism," she writes in *When Species Meet,* "then we know that becoming is always becoming *with*—in a contact zone where the outcome, where who is in the world, is at stake" (p. 244). Work in this field begins from a position that accepts 1) that both the scientist and research subject are socially situated; 2) that cultures and communities are situated in nature, thus dissolving the nature-culture binary, and 3) that the scientist and subject of knowledge are interconnected and thus the study can be influenced by the behavior of the scientist. This new research platform has already produced accepted studies on various animal communities, from coral (Hayward, 2010) to meerkats (Candeas, 2010). Additionally, the methodological shift has prompted critiques and revisions of key scientific practices. For example, studies have study

questioned the sharp separation between scientist and research subject in the field, as non-engagement with various animal communities negatively impacts data collection (Candeas, 2010). This scientific work has led to many insights, as well, in our understanding of animal minds and linguistic capabilities (Savage-Raumbaugh and Fields, 2000; Pepperberg and Spencer, 2000).[12] It is at least *prima facie* plausible that a similar methodological and epistemological shift in philosophical work in animal metaphysics could provide further insights.

From this position, one could argue that cultivating a sensitivity to how various commitments influence inquiry could help philosophers recognize potentially problematic aspects of the premises they martial. As Oliver (2009) argues, philosophers often use scientific claims as premises in arguments supporting various conclusions concerning animal capabilities. (Indeed, this was made clear in the analysis of Morgan's Law above.) Rather than treating these "facts" as continually open to revision, falsifiable, and potentially biased, philosophers often treat these as value neutral or uncontested statements. As discussed above, the methodologies that guide processes of inquiry include assumptions/commitments that may be inadvertently influencing the study. Being aware of what methodological framework was used could help philosophers identify potentially problematic knowledge statements-- statements used as premises to support claims with potentially far-reaching consequences. This could then guard against incorporating harmful biases into concepts and laws that are then used to guide the inquiry process. As discussed, the argument supporting Morgan's Law includes a sophisticated

---

[12] It should be noted here that the above scientific work often not guided by dominant methodologies in the contributing fields. While it is often done at the margins, luckily the studies were not blocked by a behaviorist bias in the respective fields (Andrews, 2011) but were allowed to contribute to the greater knowledge pool of animal capabilities, thus giving us examples of how such work could contribute to the larger project of better understanding animal capabilities. However, in a key paper on the emergence of multispecies ethnography, Kirksey and Helmrich (2010) clearly state that this type of work comes out of a heated debate during the "science wars" of the 1990s where new methodologies were clashing with old, "resulting in sometimes stark institutional divides-- splits of departments into cultural and biological wings, or into interpretive or evolutionist sections" (p. 548). This statement illuminates larger discipline specific tensions similar to those in animal metaphysics.

concept of reasoning and outdated scientific work that arguably contributes to the behaviorist bias in the field. Thus even concepts used to guard against bias can be problematic if they are treated as value-neutral (or contributing to value-neutral inquiry). Simply evoking such concepts then is not enough to support the conclusion that particular theories of animal mind (or that particular studies) are biased and therefore suspect.

In point of fact, adopting a socially situated subject of knowledge would mandate the further critique and revision of key scientific and/or philosophical criteria and laws that may be implicitly producing unintended biases, as inquiry would be seen not as something produced from a "view from nowhere" but a product of humans embedded in social contexts. When viewed from this position, Fitzpatrick's (2009) insight that the application of criteria is informed by various values and assumptions is unsurprising, as both science and philosophy become social activities done in the context of a particular time, place, and culture. Similarly, philosophical work in animal metaphysics that attempts to apply criteria, such as the criterion of simplicity, traditional objectivity, or Morgan's Law, would also be open to the same critique (Lurz, 2009). If I am correct that both approaches in animal metaphysics are guided by metaphysical commitments and open to being influenced by unexamined and potentially harmful biases (as argued in chapter two), then it is imperative that such commitments and assumptions be identified. As values and assumptions influence the application of criteria often employed in this field, both scientists and animal metaphysicians will need to be particularly careful when applying them.

In addition, adopting a situated subject of knowledge may address the *reductio ad absurdum* argument at the heart of charges of anthropomorphism. As discussed, the argument claims that the same sense data used to support the conclusion that animals reason can also be

used to support the claim that objects (such as watches or missiles) reason. However, whether or not the analogy between animals and objects is accepted or dismissed is not backed by inquiry but by the inclinations of philosophers. For example, Hume ([1739] 1978) famously stated that "no truth appears to me more evident, than that beasts are endow'd with thought and reason as well as men" (p. 176). Specifically, Hume argued by analogy that since humans and animals share many of the same behaviors and we know that human behavior is linked to the association of ideas, then it stems to reason that animal behavior is similarly constituted (Lurz, 2009, p. 3). In reply, critics claimed that the analogy was false, as it leads to an "objectionable form of anthropomorphism" (Lurz, 2009, p. 4). Thus these critics rejected Hume's analogy between humans and animals in favor of an analogy between animals and machines. The choice between these two key associations is not fully determined by inquiry but rather influenced by the values and assumptions of the philosopher making the argument. While one could argue here that this simply means that more research should be done to determine whether or not the analogy between humans and animals is apt, it is important to note that there is no fully agreed upon justification for the belief that humans have mental states (Hyslop, 2014). The most common solution is grounded in folk psychology, as Western philosophers argue that the best explanation of human behavior is provided when we accept the *unjustified* inference that there is a link between mental states and behavior. As the inference is at least partially unjustified, by definition whether or not we apply this inference to non-human animals is not fully dependent on evidence. It is at least partially determined by values and assumptions that guide our actions-- values and assumptions that, according to feminist philosophy, have taken shape in a society permeated with unequal power relations between various groups including those between humans and animals (Merchant, 1993). When placed in this context, the choice to endorse the analogy between

animals and machines (anthropodenial) rather than between animals and humans (anthropomorphism) is more likely to be the biased position, especially with current work in the sciences intimating that various species of animals have capabilities associated with the connection between behavior and intention, such as the use of language, the manipulation of concepts, and the ability to lie or play (Haraway, 2008). At the very least, as both positions are influenced by values, beginning inquiry with the aim of determining whether or not a particular analogy is justified should not be dismissed out of hand.

However, this does not mean that unexamined values should have full reign in the process of inquiry. In contrast, as Harding (1993) argues, epistemologies and methodologies that shift from the conceptualization of values and beliefs as problematic to a resource to be utilized requires a stronger form of objectivity or what she labels "strong objectivity" (p. 69). As animal metaphysics cannot escape incorporating values into philosophical and scientific inquiry, it is imperative that the field utilize this form of objectivity. Strong objectivity uses "strong reflexivity" as a resource, or the activity of reflection where the researcher acknowledges and grapples with her own social situatedness or the personal and ideological beliefs that "muddy" the research waters, so to speak (Brooks and Hesse-Biber, 2007). The subject of knowledge is historically located in a specific culture or community that holds several "unexamined" beliefs. These beliefs influence decisions in daily life and, as intimated throughout this dissertation, for the researcher and philosopher, during every stage of inquiry (Harding 1993). Indeed, Bourdieu (1993) argues that the scientist plays an active role in the formation of both objects and fields of knowledge. If this is the case, then classic forms of objectivity are weak because they do not include subjects of knowledge in their purview and thus do not eliminate culturally taken for granted values and interests; especially values and interests found in the concepts and

assumptions built into tested hypotheses (Harding, 1993). Indeed, "value free" science has

historically produced racist, ethnocentric, and sexist science (Martin, 1997; Nayar, 2014; Keller.

1985, etc.). From the view of standpoint theory, one way to combat this is through the critical

examination of the cultural contexts within which scientists are formed and preform research and

such work can only be done from the standpoint of marginalized groups.

However, it should be noted that all standpoints are not equal, as gaining an

understanding of your social situatedness from an individualist perspective is not what standpoint

epistemologists mean by acquiring a standpoint. The concept employed by standpoint theory

comes from Marxist theory, where a standpoint is a collective consciousness or identity where

the achievement of one is a "political achievement of those whose social location forms its

starting point; it is not merely ascribed from beyond the location" (Bowell, 2014). While

standpoint theory is a type of feminist theory, one does not need to be female to have a

standpoint. One's gender may provide a starting point for a standpoint, but those in both

dominant and marginalized perspectives can gain this achievement with respect to epistemic

production and power structures. Obtaining a standpoint requires both science and politics and is

an ongoing process of reflection that could provide critical insights useful for knowledge inquiry

(Harding, 2003, p. 8). As Harding (1993) argues:

> Only through such struggles can we begin to see beneath the appearances created
> by an unjust social order to the reality of how this social order is in fact
> constructed and maintained. This need for struggle emphasizes the fact that a
> feminist standpoint is not something that anyone can have simply by claiming it.
> It is an achievement. A standpoint differs in this respect from a perspective, which
> anyone can have simply by 'opening one's eyes' (p. 127).

Self-definition may provide a starting point for the identification of one's own standpoint, as the

understanding of who I am contributes to the body of literature on better understanding

stereotypes and structures of power and thus helps people become knowing subjects rather than

known objects by others (Bowell, 2014). A developed standpoint can help make visible aspects of social and power relations and knowledge claims that are distorted by patriarchal ideologies-- aspects that may not be available to those without a developed standpoint.

Adopting strong objectivity and reflexivity is particularly important when exploring questions concerning animals for at least two reasons. First, there are a plethora of pervasive and largely unexamined cultural beliefs regarding the capacities (or lack of capacities) of animals that can easily be incorporated into methods of inquiry and objects of knowledge. For example, Singer (2009) argues that many of our decisions regarding animals are influenced by speciesist views and assumptions. Regarding work in animal metaphysics, as argued in chapter two, the field has largely ignored the history of human domination, oppression, use, and modification of non-human animals that shapes human-animal relationships, the above commitments, and the creation of scientific and philosophical criteria or laws. In addition, as discussed above, the application of Morgan's law and the criteria of simplicity are not value free, but guided by researcher's values and implicitly held commitments. This critique holds for Morgan's Law itself. Finally, as all scientists and philosophers are human beings and thus share this particular positionality they may very well have unexamined beliefs that privilege homo-sapiens. While privileging humans may not be problematic in other areas of inquiry (such as work in human medicine be that scientific or ethical), work in animal metaphysics is directly connected to both knowledge claims concerning animal capabilities and larger ethical mandates (Oliver, 2009). If we want scientific and philosophical inquiries regarding non-human capabilities to move beyond culturally unexamined beliefs, then ferreting out these biases is pivotal.

Second, while biases could be identified through the inclusion of previously unrepresented groups, one could argue that it would be difficult if not impossible to include non-

107

human others in inquiry as subjects of knowledge (though this is a contested view, as Kirksey and Helmreich (2010) argue.).[13] For this reason, I argue that we must be particularly sensitive to the inclusion of cultural biases in work on animal capabilities. This does not mean that we should adopt a position of "skepticism," as such a position itself smuggles in unexamined epistemological and metaphysical assumptions, but that we need to be more diligent in the identification of biases. In addition, this does not mean that theorists are not able to potentially cultivate partial animal standpoints to improve inquiry. Various work in animal ethnography, Grandin's (2005) work in animal behavior, and Goodall's (1996) work on chimpanzees all make use of painstakingly developed standpoints from the animal's perspective. In fact, Goodall (1996) gives a detailed account of the difficulties of producing such a standpoint (though she does not call it this), how this approach goes against dominantly held methodological protocols, and how it enriched inquiry and made possible unique insights concerning chimpanzee behavior. In addition, a careful reflection on non-human animal capabilities and implicit bias in previous work influenced ground breaking scientific studies on non-humans, such as Savage-Raumbaugh and Fields (2000) work on primate language and Pepperberg and Spencer's (2000) work on the conceptual capabilities of non-human others.[14] These studies both added to our knowledge of animal capabilities and identified biases that, when removed, improved the process of inquiry. While these examples are specifically in the realm of scientific inquiry, they illustrate how reflecting from a non-human animal perspective could help identify biases that influence

---

[13] If we recognize that a large portion of "human" knowledge was and continues to be obtained through the observation and use of non-human others, be those bomb sniffing dogs, bees used to detect toxic materials (Kosek, 2010), laboratory animals, or other "working" animals, then one can argue that animals are already in some sense subjects of knowledge.

[14]This work specifically uses a revised conception of language as something that is formed within a community. It illustrates how work on the social aspects of knowledge creation, such as Longino's (1990), is influencing scientific research.

philosophical inquiry on animal cognition, as well.

Before concluding this section of the chapter, I want to note that by drawing from feminist philosophy of science and standpoint theory, I am not tacitly endorsing eco-feminist's position that there is a connection between the domination of non-human animals and women and, therefore, feminists must work to undermine both (Warren, 2000). My argument is different, as the argument that a discipline (such as animal metaphysics) can gain valuable insights from feminist work is not equivalent to providing a theory of domination and/or accepting the connection between different types of domination. My analysis has the more modest goal of helping the field address issues of bias that may be causing tension and potentially impacting theoretical work. As feminist philosophy of science has spent the last fifty years identifying biases, it is plausible that the field could help address issues of bias in other areas, be those biases that impact women, other marginalized groups, or in the case of animal metaphysics, that impact our understanding of animal cognition. However, it should be noted here that accepting a socially situated subject of knowledge positions the process of knowledge production firmly in social and political spheres-- spheres permeated with structures of power. Thus adopting insights from feminist philosophy of science could provide justification for and the legitimacy of inquiry in animal metaphysics that is guided by political agendas, such as changing laws regarding non-human animals. It would be a natural step then to progress from the arguments presented in this dissertation to more politically focused projects. The final two chapters of this dissertation touch upon such applications.

The above analysis is an example of how feminist philosophy of science can relieve current tensions in the field of animal metaphysics, strengthen the discipline, and open up promising new directions for growth. In addition, it could be argued that incorporating feminist

philosophy of science insights into animal metaphysics could partially relieve the tension between animal metaphysics and post-humanism. As feminism is one of the branches that post-humanists have identified as contributing to the project of de-centering humanist assumptions (Nayar, 2014), it would seem to follow that the incorporation of insights from feminist philosophy of science could create a more hospitable form (or branch) of animal metaphysics that also contributes to the post-humanist project of undermining humanist assumptions or that is, at the very least, open to collaboration with post-humanists. However, before exploring whether or not feminist philosophy of science could relieve this tension, it is important to first discuss how animal metaphysics and post-humanism are largely incompatible.

4.2 Incompatible Projects: Animal Metaphysics and Post-Humanism

After reading chapters two and three, there appear to be two distinct schools of thought that address epistemological and metaphysical topics concerning animals from fundamentally different theoretical positions. The first school, animal metaphysics, attempts to obtain a more accurate account of the mental life of non-human animals, as this is understood to be necessary for identifying ethical obligations. It is built upon the basic metaphysical commitment that subjectivity is something that can be known, rather than something that is constructed by social and cultural contexts. In addition, it largely accepts a humanist conception of the mind (privileging rationality, autonomy, agency, and/or authority) that is then used as the standard model by which others are judged (see Carruthers, 2008; Fodor and McLaughlin, 1990) and the ontological separation of the concepts "human" and "animal."

In contrast, post-humanism is a school born from crisis and, while it initially drew upon a plurality of theoretical frameworks, leading post-humanists today largely accept post-structuralist theory as the predominant post-humanist theoretical framework (see Wolfe, 2010; Oliver, 2009;

Badmington, 2003). For this reason, most post-humanists, though not all (see Haraway, 2008), accept the following metaphysical commitments, largely taken from the post-structuralist tradition: 1) that epistemology comes before ontology (or the claim that how we come to know objects of knowledge influence that object); 2) that subjectivity is not an ontological object that can be known but is created within specific contexts and cultures; and 3) the denial of the human/animal divide. The main challenges found in this school are the formation of a theoretical base that can provide tools for the creative project of crafting a philosophy without humanist assumptions and determining whether or not this theoretical base will harm historically marginalized groups.

While animal metaphysics and post-humanism hold consistent internal commitments (barring those that are causes of tension in the fields themselves), I argue that theorists working in these two schools accept metaphysical and epistemological claims that are at odds with one another. The main contradiction or tension between these two schools stems from animal metaphysics acceptance of largely unexamined humanist assumptions-- assumptions that post-humanism has defined itself against. In addition, some of animal metaphysic's most basic commitments (such as that subjectivity can be known, the privileging of a humanist conception of subjectivity or the mind, and that humans have the ability to produce "certain" knowledge) are at odds with post-structuralist commitments adopted by post-humanism. For these reasons, both schools appear to be at an impasse that cannot be rectified through a simple bridging of the disciplines, as animal metaphysics and post-humanism hold incompatible commitments.

4.3 Post-Humanism and Feminist Philosophy of Science

Thus the larger project of animal metaphysics is, itself, now largely incompatible with post-humanism. In point of fact, current post-humanists, such as Wolfe (2008), Oliver (2009),

111

and Badmington (2003) have chosen to adopt a post-structuralist theoretical framework, where syllogistic and propositional knowledge are understood to be either impossible or not applicable to the human/animal question (Wolfe, 2008; Diamond, 1978).[15] In addition, it would appear that post-humanism is also incompatible with feminist philosophy of science on similar grounds, as both Wolfe (1995) and Badmington (2003) dismiss this field as a viable theoretical framework for post-humanism. Badmington (2003) argues that contrary to Haraway's "thrilling" work, deconstruction provides the tools necessary for the further critique of humanist assumptions.

More problematically, Wolfe (1995) dismisses feminist philosophy of science for several reasons beyond the simple lack of relevant tools. First, he is skeptical of this field's commitment to the connection between knowledge and ethics. Second, Wolf claims that "strong objectivity" does not escape the god-trick, as it is still based upon the separation of distorting values from non-distorting ones. In actuality, strong objectivity is a form of "weak representationalism," as by accepting that "different perceiving organisms simply have different perspectives on the world," it "continues to treat the world as pre-given; it simply allows that this pre-given world can be viewed from a variety of vantage points" (Varela et al, 1991, p. 202). Finally, he objects to both Haraway's and Harding's use of "objectivity," or specifically Haraway's (1988) argument that "only partial perspective promises objective vision" (p. 190) and Harding's (1993) claim that "the systematic activation of democracy-increasing interests and values... in general contributes to the objectivity of science" (p. 18). Relying upon a traditional conception of objectivity, Wolfe (1995) assumes that the above projects are concerned with reducing the role of social interests in knowledge inquiry and then questions how such a reduction can equal "more objective" results

---

[15] Diamond (1978) argues, moral relations between humans and non-human others should not be based upon the recognition of biological sameness, but upon a critique of ontological categories and, potentially, upon a foundation of being a fellow creature (p. 470). Thus, from this perspective, the entire field of animal metaphysics is wrong-headed.

(p. 41). To put it succinctly, Wolfe claims that feminist philosophy of science is deeply committed to "debilitating representationalist notions" and the concept of "objectivity" that includes humanist assumptions and, therefore, it is not an appropriate theoretical framework for post-humanism (p. 47).

Thus post-humanism appears to be largely incompatible with both feminist philosophy of science and animal metaphysics. Perhaps this is what prompted Haraway's (2008) move to distance her work from the current form of post-humanism espoused by Wolfe. With this being said, however, I argue that the incorporation of feminist philosophy of science insights, epistemologies, and methodologies is exactly what is needed to both address the current tension within this field and to open up new areas of inquiry. Before making this argument, however, I would like to point out a key feature of Wolfe's critique that is useful for my argument.

In addition to a gross misreading of key texts, Wolfe (1995) builds his critique from the Kantian position that we cannot know "things in themselves" but only phenomena grasped through concepts and from the position that knowledge claims are not applicable to ethical questions. As illustrated above, these are positions that either come out of or are deeply influential in post-structuralism (Wolfe, 2008). Indeed, most if not all of Wolfe's critiques utilize post-structuralist tools (see Wolfe, 1995; 2008; 2010). My point here is not that this is an unacceptable form of critique. Rather, I argue that the current post-humanist fixation with deconstruction is essentially being used to partially silence or undermine the other branches that originally contributed to the crisis in humanism and that sparked the creation of the discipline: Specifically, scientific work on animals, as a large portion of this work could fall under animal metaphysics and is committed to objectivity, and the de-centering of the humanist subject by feminism and critical race theory-- specifically, branches of these schools that hold commitments

113

incompatible with post-structuralism. Indeed, as illustrated above, this project of post-structuralist critique has also been used to distance current post-humanist work from previous work in the field, such as Haraway's (1989) work that is at least partially grounded in feminist philosophy of science and that again helped to found the discipline of post-humanism.

The post-humanist project of critique would be acceptable and desirable if this field, paradoxically founded by work from a plurality of fields, was not searching for "one" post-humanist theory (a search that could itself be labeled "universalizing"). For this reason, I argue that post-humanism can learn the following lesson from feminist philosophy of science: Specifically, how to build a field of study that includes the theoretical resources necessary for critique, branches that take on the creative process of building new epistemologies, concepts, and systems of thought, and the flexibility to incorporate disparate philosophical frameworks. For example, feminist philosophy of science engages in the process of critiquing how dominant practices of inquiry systematically disadvantage members of underrepresented groups and uses these critiques as a basis for building new epistemologies and methodologies (that are often at least partially incompatible with one another), such as standpoint theory, feminist empiricism, and feminist post-modernism (Anderson, 2015). Similarly, post-humanism could accept as its basic commitment the critique and de-centering of humanist assumptions, while still making a place for different approaches that contribute to this de-centering project but that may not be fully compatible with one another. As in feminist philosophy of science, this diversity could then be used to strengthen the field, as it would increase the theoretical tools available for both critique and the creation of new epistemologies.

Second, accepting theoretical plurality within the field could then be used to address the incompatibility between post-humanism and both feminist philosophy of science and a reformed

animal metaphysics, as separate branches in post-humanism could utilize different metaphysical and epistemological commitments, while still staying true to the overall goal. Rather than at least partially dismissing two of the three branches that helped to form post-humanism because they are largely incompatible with the metaphysical commitments of one branch, as argued above, the field could be strengthened if it utilized the strengths of each founding branch. (This is especially the case when branches disagree on which humanist assumptions should be challenged.)

In addition, if theoretical plurality were adopted by the field, the main challenge of creating a theoretical base that could provide tools for the creative project of crafting a philosophy without humanist assumptions would essentially rectify itself; as some work in animal metaphysics (especially studies positing intentionality) and work in feminist philosophy already participate in or inform inquiry that produces "knowledge claims" that directly contradict humanist assumptions (knowledge claims that are themselves open to critique and deconstruction).[16] Thus such fields can already be understood as "post" humanist and, most importantly, already understood to be contributing to the creative project of producing post-humanist theoretical structures.

4.4 Post-Humanism and Oppression

This brings us to one of the most important contributions that feminist philosophy, more generally, can make to the field of post-humanism: It can help address the potentially problematic issues concerning the dismantling of the humanist subject. As discussed in chapter three, post-humanism, as a discipline, juxtaposes itself against the humanist project, challenging

---

[16] In addition, incorporating insights from other schools, such as deep ecology, and work on animals coming out of ecofeminism and feminist care ethics (Deckha, 2012), that also undermine such assumptions could be used to further post-humanist projects. Indeed, several of the texts on the Environmental Philosophy Reading list could be incorporated into further work building upon this point, such as Callicot (1989; 1999), Davis (1995), DeLind (2011), Donovan (2007), Fairlie (2010), and Leopold (1948).

humanist assumptions, such as the universal subject, a commitment to rationality, the separation of the self and environment, and the ethical and metaphysical divide between humans and non-human animals (Badmington, 2003; Wolfe, 2008). A primary motivation for challenging the humanist project appears to be centered on the claim that de-centering the humanist subject will absolve the oppositional logic that humans' use to justify enslaving, imprisoning, using, or eating non-human animals and various "others," be those human, animal, machine, or hybrids (Oliver, 2009). In fact, various post-humanist theorists hold the position that post-humanist critiques are a part of larger liberationist political projects battling "against the strategic deployment of humanist discourse *against other human beings* for the purposes of oppression" (Wolfe, 1995, p. 36). However, it is not clear that abandoning a humanist conception of the subject will contribute to liberationist political projects or further entrench the oppression and/or domination that such projects have historically fought against. While Wolfe (1995) sees such fears as an "indulgence," and thus not deserving of serious consideration, Foucault (1984) conceives the end of humanism as harkening in a dystopian age where the social sphere is fully saturated by oppression, domination, and power (Wolfe, 1995, p. 34).

Additionally, Wolfe (1995) argues that post-humanism is unavoidable and "*already* upon us," again arguing that the critique should be dismissed out of hand (p. 36). This position draws upon Haraway's (1991) claim in "A Cyborg Manifesto" that "the boundary between human and animal is thoroughly breached... nothing really convincingly settles the separation of human and animal" (p. 151-152). However, even if boundaries between ontological categories (human, animal, machine etc.) are being complicated and multiplied, it does not follow that the post-humanist ethical and political projects should be above this critique, especially since these projects are understood to 1) contribute to liberationist political projects (rather than harm them)

116

and 2) eventually replace current human centric ethics and political systems-- systems that are currently used to argue against the oppression of marginalized groups. As discussed in detail in Chapter 3, such projects could have unintended consequences, as decentralizing the humanist subject could undermine the fail-safes of theories of justice, politics, ethics, morals, law, property, and rights built to work in a human sphere or system that is made up of human agents distinct from, yet connected to, the natural environment would essentially be eroded. Post-humanists have given no arguments to support the claim that an eraser of difference at the level of the subject would not further reinforce the process of violence, opening up violence and oppression to a wider circle, and potentially leading to the dystopian future Foucault (1984) and later Merchant (1993) warned about.

For these reasons, rather than an "indulgence," post-humanist theorists should treat such fears seriously. In addition, feminist philosophy could provide insights into whether or not challenging the conception of the humanist subject will contribute to liberationist projects or harm them. For example, unlike post-humanist theorists, feminist philosophy does not accept the basic claim that dualisms or difference entails domination and the additional claim that complicating, multiplying, or erasing this difference is necessary for the eradication of domination. For example, as discussed in chapter three, feminist theorists have long recognized that logics of domination have many moving parts. It is true that the humanist subject (built on the human-animal dualism) forms the first premise of this logic but, for some schools of feminism (such as ecofeminism), difference does not entail the leap to a justification of domination. For example, a simplified logic of domination goes as follows: If group A is inferior to B, then group B is justified in dominating group A (Warren, 2000). Here dualisms, such as human/animal or nature/culture, may have ontological significance, in that they help order the

world around us, but the second step of arguing that A is inferior to B and the conclusion that B

is therefore justified in dominating A are both required for oppression to become a possibility.

With this work in mind, it is not clear that challenging the humanist subject by problematizing

the human/animal divide may be an adequate or even desirable way to challenge systems of

oppression. This is especially the case if, as discussed above, challenging the humanist subject *en*

toto could harm historically marginalized peoples precisely when, in the words of Spivak (1991),

they have "graduated into humanhood" (p. 227).

Additionally, the above critique of the post-humanist project and the potential problems

with addressing oppression at the level of ontological difference both illustrate how attempting to

create a "post-humanist" ethic, politic, and philosophy *sans* the features associated with the

humanist conception of the human could be problematic, if not impossible. This is especially the

case as these features commonly include awareness of the self, rationality, autonomy, agency,

authority (Nayar, 2014) and, more specifically to Wolfe (1995), the standard of objectivity. As

Priest (2006) argues in *What Is Philosophy?* the very act of doing philosophy precludes a

philosophy (and by extension an ethic and politic) that does not recognize reason as a possibility.

However, this does not mean that a post-humanist philosophy or ethic is impossible. Rather, as

illustrated by work foundational for post-humanism (feminism and critical race theory), a post-

humanist ethic or politic could leave these concepts intact while identifying new attributes

considered to have ethical import or extend the ethical and political sphere to include various

other beings (animal, robot, plant, etc.) and hybrids. Indeed, in the fields of animal and

environmental ethics, animals and ecosystems are currently being incorporated into a diverse

array of political and ethical systems, such as rights-based (Regan, 2004), utilitarian (Singer,

2009), and land ethics (Callicot, 1999). While these systems make use of humanist assumptions,

each can be understood as a broadening of the ethical sphere and a weakening or complication of the human-animal divide. Additionally, taking a page from feminist philosophy of care, Palmer's (2010) and Haraway's (2008) work situates ethics not at the level of the individual but at the level of relationships, thus undermining the historical connection between the humanist subject and ethics. For these reasons, this can be seen as contributing to the larger post-humanist project of de-centering the human. Yet the majority of these theories do not advocate the wholesale removal of the humanist subject or undermine other "assumptions" post-humanists commonly lump under the category of "humanism" (though these concepts may not have ethical import in a particular system) (Nayar, 2014).

Again, then, post-humanism could become stronger if it accepted theoretical plurality characterized by feminist philosophy of science rather than attempting to find one theoretical foundation to ground post-humanist philosophy, politics, or ethics. This is not a new position for post-humanism, as the discipline was born from a crisis in humanism caused by work coming out of a plethora of disciplines, such as post-structuralist critiques, scientific work on animals (using the criteria of objectivity), and feminism and critical race theory (Nayar, 2014). Like the work in animal and environmental ethics discussed above, the majority these theorists do not consider themselves to be post-humanists and the majority of this work does not undermine the humanist subject *en toto*. However, if post-humanism is marked by the goal of undermining the humanist tradition (or moving beyond this tradition), then past and current work aligned goals could be understood to be contributing to the post-humanist project even if the work is not itself post-humanist. For this reason, accepting plurality may have inadvertently answered the problem of finding a theoretical base from which to ground a post-humanist ethic and politic. To borrow from Wolfe (1995), if post-humanism is unavoidable and is "already upon us," then I argue that

post-humanist ethics and politics are also already upon us, as ethics, politics, and philosophies developed as the human/animal/technological boundaries erode are becoming a mainstay in the areas of environmental, animal, and technological ethics and various other fields of inquiry beyond philosophy.[17] Here again feminist philosophy of science can help address a major tension in the field and open the field up for future developments.

In this chapter, I built upon the overview of animal metaphysics and post-humanism that included an outline of fundamental assumptions, metaphysical commitments, and specific tensions in the schools. I then presented the argument that feminist philosophy of science could help address pitfalls in both fields. Specifically, concerning animal metaphysics, I argued that feminist philosophy of science is uniquely equipped to help us better understand and address key tensions in the field and open up areas of future growth. Incorporating new epistemologies and methodologies from feminist philosophy of science could improve the quality of work being done on animal minds and help to identify unexamined speciest assumptions informing some of this work. Concerning post-humanism, I argued that feminist philosophy of science has valuable tools that can help the field find a theoretical framework, making the twin goals of building a post-humanist ethic and politic possible. Indeed, if the field accepts theoretical plurality, then one could argue that such frameworks are already here, thus removing this problem as a roadblock for post-humanism. While the issue of animal minds (animal metaphysics) and theoretical frameworks for post-humanist ethics (post-humanism) may at first appear to be purely

---

[17] One could counter here that accepting theoretical plurality is a non-issue, as post-humanist theorists recognize this historical beginning of their discipline. However, each the following projects illustrate how the field is markedly moving away from its pluralist beginnings: Specifically, Oliver's (2009) project of creating a post-humanist ethic, Badmington's (2003) project of grounding the discipline in post-structuralism, Wolfe's (1996; 2003; 2010) twins projects of removing theoretical traditions from the discipline (such as feminist philosophy of science) and advocating a combination of post-structuralism and systems theory to ground post-humanism, and Nayar's (2014) codification project that identifies this hybrid-systems theory as the theoretical foundation of the field. Thus, while post-humanism historically accepted plurality, this is no longer the case.

theoretical, in actuality, answers to these questions directly influence our behavior towards non-human animals, as modern society uses animal power, the bodies of non-human others, and their genetic structure to further human aims. For this reason, the next section of the dissertation will bring the discussion back to the realm of animal ethics as it connects animal metaphysics to the application of ethical theories in human-animal contact zones.

Chapter 5: What Animal Ethics Can Learn from Work on Animal Minds

The previous chapters of this dissertation have primarily grappled with two philosophical fields working on problems concerning animal minds: Animal metaphysics and post-humanism. The goals of these chapters were to identify potential problems or impasses in each field (chapters 2 and 3) and to outline how feminist philosophy of science can both help address such problems and open up areas of future growth (chapter 4). While the previous chapters illustrated how theories and models of animal cognition are influenced by metaphysical, epistemological, and methodological assumptions, this chapter brings the discussion back to the realm of animal ethics as it connects animal metaphysics to the application of ethical theories in human-animal contact zones. Thus it points at and illustrates how the previous chapters further my larger project of exploring how various metaphysical commitments are built into the fabric of human-animal contexts.

More specifically, this chapter explores how work on and models of animal cognition impact the field of animal ethics, especially in the realm of engaged ethics. The structure of this chapter goes as follows: First, I give a brief overview of what I mean by "engaged animal ethics" in contrast applied animal ethics. I will then illustrate how knowledge claims regarding animal cognition and capabilities influence this practice. Drawing upon the work of Palmer (2010), I argue that the various issues that arise when applying animal ethics illuminate the problem that models/theories of cognition, pain, and various other capabilities may negatively impact the application of animal ethics. I go on to argue that while ethics may not have the tools to address these issues, the field of animal metaphysics can provide insights that philosophers may find useful when applying ethical theory in human-animal contact zones. The paper ends with an

overview of general recommendations those working in these contact zones may find useful. The contribution of this chapter to the wider literature is primarily in the realm of application, as it teases out the complexities of putting animal ethics into practice in highly complex human-animal contact zones.

5.1 Engaged Animal Ethics

First, it is important to define our terms. Exactly what is animal ethics? And more importantly what type of animal ethics is being brought into conversation with animal metaphysics? While some philosophers, such as Beauchamp (2011), accept a wide definition of "animal ethics," including work from a plethora of philosophical disciplines, animal ethics is often considered to be an "applied" branch of ethics. Here "applied" signifies the act of applying philosophical theories to questions concerning animals, such as what duties (if any) we have to non-human others and, if we have duties, the identification of what these duties are. For example, Nussbaum (2007) applies the capabilities approach to such questions, Singer (2009) a utilitarian ethic, Adams and Donovan (2007) a feminist philosophy of care ethic, Regan (2004) a rights based approach, etc. etc. After such applications are made, the philosophical community usually responds with various critiques of these positions, counter-arguments, and replies. For example, there is a current debate on Singer's application of utilitarianism to animal husbandry practices (Palmer, 2010). Thus the most common work coming out of this field largely deals with the expansion of existing ethical theories to include non-human animals and critiques of these various theories.

However, there has also been a push to recognize contextual factors (such as emotion and relationships) when applying ethical theories to non-human animals (Palmer & Sandoe, 2011). For example, Noddings (1984) argues that we have an ethical duty to respond to animal suffering

but this is not because of a utilitarian calculus or that it violates rights. Rather, not responding to suffering and the sympathy that this invokes "demonstrates a lack of care, or inappropriate emotional response, in the person concerned" (Palmer & Sandoe, 2011, p. 15) In addition, there are various approaches, such as Palmer's (2010) and Haraway's (2008), that locate ethical import not in the animal itself but in the relationships that humans and non-humans share, such as the relationship between a person and her dog, for example, or between humans and domesticated animals. This shift in the literature demonstrates an important trend in the field of animal ethics: Specifically, the move of taking contextual factors into account when applying ethics and the related development of working with or "engaging" various stakeholder communities when applying ethics *in situ*. This work occurs in human-animal contact zones, such as in agricultural settings, wilderness areas, and even in the city.

Work coming out of this sub-field, known as "engaged animal ethics," is perhaps best known in the area of agriculture, as some theorists working in this area argue that "the role that animals... play in the ecology of human food production is too complex to allow for any instant ideological solution" (Fairlile, 2010, p.3). In this area, scholars, such as Grandin (2005), Rollins (1995), Fairlie (2010), and Thompson (2015) have a history of working with ranchers, chicken and pork producers, animal scientists, and other stakeholders to improve the quality of life for farm animals. Indeed, their work has been highly influential in the livestock industry, with Grandin's (2005) culminating in the revamping of slaughter facilities (to limit animal suffering), Rollin's (1995) providing recommendations applicable to various types of animal husbandry, and Thompson's (2007) contributing to serious discussions on genetic modification and the improvement of poultry production methods/facilities. In each of these examples, animal ethicists or scientists (in the case of Grandin) worked with (or were influenced by) various

communities of stakeholders to solve ethical problems.

In addition, scholars, such as Van Dooren (2015), start ethical inquiry not from the application of a theory to a particular problem, but by building upon Haraway's (2008) insight that living beings emerge within "webs of interactions," the analysis of which prompts new kinds of ethical questions and concerns. Similarly, while sometimes engaged animal ethics involves the application of various ethical theories to particular cases, it also includes the process of deriving ethical norms from specific contexts and the integration of ethical analysis with factual matters that can significantly influence the content and meaning of a normative claim or judgment. This is a particularly important distinction for this chapter, as engaged animal ethicists face the complications discussed below; complications that illustrate how knowledge claims concerning animal capabilities are separate from yet impact ethical decision making.

Thus, unlike applied animal ethics as it is traditionally understood, engaged ethics moves away from applying ethical theories in the abstract, as the process of ethical thinking here is done in rich contexts, formed by various *metaphysical commitments* that have histories of their own. In fact, according to Douglas (2009), it has become increasingly apparent in all branches of applied ethics (be that bioethics, environmental ethics, or animal ethics) that the "application of traditional theories rarely provides either the philosophical insight or the practical guidance needed" (Douglas, 2009, p. 322). She concludes that "coming into a complex context.... [such as a human-animal contact zone] with a particular theory (e.g. a Kantian approach) and attempting to simply apply that theory rarely provides much assistance or illumination" (Douglas, 2009, p. 322). Indeed, ethicists applying ethical theories in complex environments could be faced with several complications. First, the application of particular theories could potentially cause harm at different levels (depending on the stakeholder). For example, when applied, ethics focused on

individuals could undermine the relationships between different life-forms and larger ecological systems, as when deer are protected even when their numbers cannot be supported by the local ecosystem. Second, the application of an ethical theory may benefit one stakeholder, while simultaneously harming another, such as when one must choose between killing "pest" animals, such as aphids, mice, and crows, and saving crops that could potentially feed human populations. Here there are conflicting obligations to various individuals. Third, in human-animal contact zones, a plethora of interests need to be taken into account beyond those of sentient beings, such as mountains, streams, soil, and various other environmental features. Thus there is the problem of how to take such features into account beyond a merely human-centric resource model when the features are not sentient or lack human language.

Finally, and most importantly for this chapter, ethicists and stakeholders involved in on the ground ethical decisions do not occupy a god's eye view, where they are divorced from historical contexts, societies, scientific research, values, and assumptions. Each are deeply embedded or, in the words of Haraway (1988) and Harding (1993), socially "situated" in a particular culture; a culture that tacitly accepts a wide variety of *metaphysical/ontological commitments* or assumptions, such as the assumption that humans and animals are distinct rather than of a single kind. Here a "metaphysical commitment" should be understood as a basic governing feature of social life (Rose, 2003) or a foundational concept that a person holds regarding what something "is" and the connections between concepts that often form dualisms (Inwagen, 2014). Such conceptions deeply influence all areas of life, such as in the formation of identity (Ricoeur and Blamey, 1995), the labeling of individuals, groups, objects, and areas (Derrida, 2008), such as urban and wilderness areas, and in philosophical and scientific inquiry (Haraway, 1988; Harding, 1993; Martin, 1997; Wolfe, 2008). As will be discussed, such

commitments deeply influence the application of ethical theories.

Arguably, one of the most important types of metaphysical commitments that influence the application of animal ethics in various contexts are those concerning animal cognition. These "facts" and "justifications" are often used 1) when crafting ethics and 2) during the application of ethical theories on the ground. First, as Palmer (2010) argues, the most common form of animal ethics is one built on a claim that some animal capability (such as sentience, the ability to feel pain, or to have a sense of self) provides the justification for treating animals ethically. Their basic structure often takes the following form: "A single (or several) 'keystone' capacities, capabilities, or attributes that bestow moral considerability are identified. It is then argued that (some or all) animals possess the keystone capacity (or capacities), attribute (or attributes), or capability (or capabilities) and are therefore morally considerable" (p. 10). Thus various capacities, some of which concern cognitive abilities, are used as starting points for animal ethics. For example, Singer's (2009) and other utilitarian based animal ethics often focus on the ability to feel pleasure and pain or to suffer. Regan's (2004) animal rights ethic is built on the claim that most mammals are subjects of a life, or are conscious, meaning that they "can want and prefer things, believe and feel things, and recall and expect things" and thus have inherent value (p. 209). Finally, Nussbaum's (2007) capabilities approach accepts the capacity to feel pain as the primary factor determining whether or not animals are morally considerable and heavily relies on conceptions of what it means for animals to "flourish" (Palmer, 2010). In each of these examples, cognitive criteria are used to distinguish animals that are morally considerable from those that are not. In fact, Regan (2004) is particularly careful in his *Case for Animal Rights* to delineate the types of animals, using cognitive criteria, that belong to the category of "moral patient" and thus are under the purview of his ethic.

Second, models and notions of pain, pleasure, sentience, and other capabilities are often used during the application of animal ethics on the ground. For example, even relatively straightforward ethics, such as a utilitarian calculus based on the reduction of pain, become problematic in the field, as different models of pain will yield markedly different animal welfare recommendations. For example, if we used Nelkin's (1986) model of pain that emphasizes the role of the neocortex in producing pain sensations, then animals, such as chickens, that have a small neocortex may have a very different experience of pain or no experience of pain whatsoever, as Nekin argues. If this is the case, then the currently poor conditions of chickens in egg and meat operations could become ethical non-issues (chickens could be removed from the ethical circle, so to speak) or minor changes to facilities could be seen as satisfying ethical obligations. In contrast, alternative models of pain not dependent on the neocortex, such as those found in recent work on chicken cognition, may require more drastic changes to such facilities. Other attributes such as what it means to "flourish," have ones' interests met, or be cognitively stimulated, such as ideas that under-gird enrichment activities for farm animals, are more complex and vary from stakeholder group to stakeholder group. Thus, even when such commitments do not negate the application of an animal ethic, they still play a role when the particular ethic *is applied*. Most importantly, they often influence how it is applied.

Palmer (2010) takes various problems associated with the application of animal ethics to intimate that animal ethics based on capabilities misses the importance of contextual relationships, such as those created through domestication. Thus, for her, there is a flaw or blind-spot in the ethical approaches themselves. While this may be so, I argue that the various issues of application also help identify two potential problems that ethicists are faced with when applying theory: 1) the problem that theories of animal cognition, pain, and various other capabilities

128

could be biased and 2) that outmoded, problematic, or misapplied models of cognition may negatively impact the application of ethics. This is especially the case in animal ethics where foundational concepts, dualisms, models of cognition, and scientific "facts" concerning non-human animals may play roles during the application process. For example, if models of pain, such as Nekin's (1986) that focuses on the role of the neocortex is problematic, then the welfare recommendations of an ethic guided by this model may also be problematic, as we've just discussed. While the first problem of how values could play roles in the empirical/theoretical processes producing work on animal cognition is largely outside of the purview of animal ethics, as this is largely an epistemological issue (and has been discussed in previous chapters of this dissertation), the next section of this paper will briefly outline potential issues with theories/models of animal cognition, as it is important for engaged ethicists to be mindful of ways that work on animal capabilities could be potentially biased. In addition, as will be explored below, this brief synopsis could provide useful insights for engaged ethicists. After which, I will discuss the second problem in more detail, as this issue falls more squarely in the realm of applied or engaged animal ethics before ending with an outline of potential practices that could be helpful for addressing this concern.

5.2 Problem One: The Role of Values in Theories of Animal Cognition

As discussed in the previous chapters, the influence of values in scientific inquiry is unavoidable, as all inquiry is a product of a specific time and place (Bleier, 1984; Keller, 1982; Harding, 1993). As early as the 1970s, feminist philosophers of science and theorists working in science studies recognized that science is not value free, as "implicit, unstated and often unconscious beliefs about the nature of reality" can impact all stages of the scientific process, including the formation of projects, their results, and any explanatory models produced from the

collected data (Hubbard, 1979, p. 10-11). This critique extended to the formation *and application* of basic concepts used in scientific practice as theorists, such as Keller (1982), Bleier (1984), and Rosser (1990), offered various critiques of traditionally held scientific criteria, such as the criterion of simplicity, explanatory unification, and consistency (Kourany, 2010; Longino, 1994). In the areas of animal metaphysics and animal science, several theorists have offered similar critiques concerning how values influence the application of these guiding principles in work on animal cognition. For example, Andrews (2011) argues that charges of anthropomorphism play pre-empirical roles in research on animal capabilities. However, there is no inherent problem with the examination of questions concerning psychological properties of non-human animals, such as whether or not they have psychological states or specific personality traits (p. 470). Thus the field appears to be divided on where to start research or on which set of pre-empirical value and/or ontological commitments should be used to guide research. Pepperberg and Lynn (2000) sum up the issue perfectly when they argue that "the study of consciousness, particularly in non-humans, is one of science's thorniest current problems.... [the authors are] over-whelmed by its distinctions, disagreements, and controversies" (p. 893). This debate centers on the following issues largely beyond the sphere of the research process: 1) How to define consciousness and 2) whether or not consciousness should even be postulated.

Here these two issues are not disagreements concerning the scientific process itself but concern more fundamental decisions that guide the research process, such as metaphysical concerns regarding the nature of consciousness and whether or not non-human animals are "kinds" of creatures that can be conscious. Indeed, Fouts (1973) argues that researchers contributing to debates on animal "language" and "counting" often shift their definitions of these traits to include attributes non-human animals are thought to lack. More recently, Pepperberg and

130

Lynn (2000) have pointed out that "whatever level of competence animals demonstrate, detractors simply 'up the ante,' redefining the concept so as to exclude nonhumans" (p. 895). Similarly, Fitzpatrick (2009) has provided an illuminating analysis of the application of the criterion of simplicity in mindreading debates, arguing that both proponents and skeptics of primate mindreading have argued that their explanation is 'simpler' or 'more parsimonious' than alternatives and hence should be preferred" (p. 258). However, notions or definitions of what it means to be "simpler" are quite slippery, as there is a multiplicity of ways that interpretations can be said to be simple or complex. Thus, the application of this criterion could be guided by values or "inclinations" that the scientific process is not designed to guard against. Again, while the field of animal ethics largely focuses on ethical and not epistemological issues, it is important to at least be aware that "facts" and empirical data used by ethicists could potentially be problematic, especially as Oliver (2009) argues that ethicists often use scientific facts uncritically in their work.

5.3 Problem Two: "Ideal-As-Model" Models of Cognition

In addition to commitments that may play a role during the research process, potentially problematic assumptions could be included in the models of cognition produced by such work. When applied, such models containing problematic assumptions may negatively impact the application of ethics thus contributing to the second problem identified above. As discussed in chapter one, Mills' (2005) critique of ideal theory illustrates what I mean by "model" here and various problems of their application. Specifically, Mills (2005) argues that ideal theories are, at least in part, ideological, as they often reflect and perpetuate group privilege. This argument is built upon the claim that, like in the sciences, ideal ethical theories are "ideal" precisely because they *purport* to describe or model phenomena of the world in which we live (Mills, 2005, p.

166). These theories are "ideal-as-descriptive-model" because part of the process of crafting ideal theory involves abstracting away certain features of the studied aspect of the world based upon what the theorist takes to be most important. Thus such theories, as idealized models, are divorced from what is being studied. The closer the model approximates reality, the more useful it is for predicting behavior. For example, a highly detailed model of a cell will be more useful for predicting future behavior or the effects of actions than one that vaguely resembles this structure. Mills goes on to argue that, while such models are useful in physics and other hard sciences, they can be problematic when applied to humans or other agents, especially in the field of ethics.

In scientific and theoretical work on animal capabilities/cognition, "scientists [and philosophers] attempt to simplify, contrast, and isolate its aspects" (Pepperberg and Lynn, 2000, p. 894). This process of isolation is itself a process of abstraction markedly similar to Mills' description of the development of ideal models. For example, higher order representational approaches (HOT) start from a position that consciousness requires higher order functions (Lurz, 2009), such as the ability to use language (Bermudez, 2003), to mind-read (Carruthers, 2000), or to lie or be surprised (Pepperberg and Lynn, 2000). Each of these theories identify a set of attributes (out a diverse array of potential attributes) that are thought to be necessary for consciousness. For this reason, each can be considered "ideal" in that they privilege one set of attributes over various others. Thus they could include idealized capacities (as the theories argue that "all" beings who are conscious have attribute X, Y, or Z) and social ontologies, as various models or definitions assume that beings who have consciousness are individual or social. In fact, a previously unrecognized ontological commitment impacting research was challenged by Savage-Rumbaugh et al (2000) when they argued that bonobo language studies' previously poor

132

results were not due to a lack of linguistic capacities in these animals but due to assumptions regarding the nature of language itself. While many of these basic commitments may not be harmful (for example, the assumption that individuals are atomistic would not impact models of blood circulation), they could potentially negatively impact the application of animal ethics, if the ethicist is using an outmoded model of cognition, the model or definition is human centric, or applies such models/definitions without taking new data or specific species behavior into account. Indeed, a similar point was made by Candea (2010) regarding models of behavior in human-animal research.

Thus there are at least two potential problems that ethicists may be faced with when applying ethical theory: 1) the problem that theories of animal cognition, pain, and various other capabilities could be biased and 2) that outmoded, problematic, or misapplied models of cognition may negatively impact the application of ethics. However, it should be noted here that work exploring animal cognition/capabilities coming out of theoretical and scientific branches has never been stronger. As illustrated in this chapter and previously in the dissertation, many of the critiques of models of consciousness, methods of research, and the application of general scientific criteria, such as the criterion of simplicity, have been raised by theorists working in the field. These critiques have highlighted how various commitments can influence the empirical process and the arguments for or against various models of cognition, consciousness, and various capabilities. Indeed, as we have seen, many of these models or definitions of consciousness are being hotly debated in the field today, as the problem of animal cognition is considered to be "one of science's thorniest current problems" (Pepperberg and Lynn, 2000, p. 893). Thus my focus in this chapter is not on attempting to add to this debate, as this was discussed in chapter four, but simply to explore potential problems identified above, as ethical recommendations

directly impact the lives of non-human others and, as Oliver (2009) argues, the misapplication of an ethical theory or concept, such as justice or love, could produce harm. While work coming out of the sciences and philosophical branches may be open to the 1) problem of bias (as discussed in chapter two), this is largely a problem to be addressed by those working in animal metaphysics, epistemology, and philosophy of science. However, this does not mean that engaged ethicists cannot take steps to address potential problems of application. In the next section of this chapter, I argue that the field of animal metaphysics along with the above analysis of empirical work on animal cognition could also provide positive insights useful for engaged animal ethicists when addressing such problems.

5.4 Lessons from Animal Metaphysics

As discussed throughout this dissertation, there is another philosophical field in addition to animal ethics, known as animal metaphysics, that works on questions concerning animals. More specifically, this field addresses epistemological and metaphysical questions concerning animal cognition and capabilities. Metaphysical questions are those that focus on better understanding "what kinds of minds" non-human animals possess or what kinds of minds can be deduced from their behavior (p. 4). The predominant metaphysical questions concerning animals in the history of philosophy are whether or not animals have reason, can think, or are language users. Epistemological questions, in contrast, concern *our* knowledge or how humans understand non-human animal minds. This field largely comes out of the analytic tradition and is highly interdisciplinary, with theorists drawing from philosophy of language, epistemology, philosophy of mind, philosophy of science, and various other disciplines. Animal ethicists often draw from both work coming out of animal metaphysics and scientific fields exploring animal cognition while crafting or applying ethical theories (Palmer, 2010). Indeed, as will be discussed below,

134

both fields draw upon each other when attempting to answer metaphysical and epistemological questions concerning the animal. While animal ethics and animal metaphysics largely developed in isolation, animal metaphysics is particularly sensitive to potential problems with models of cognition and could provide insights useful for engaged animal ethicists attempting to martial various models when applying theory or when negotiating between stakeholders with differing views.

Specifically, in the next section of this chapter, I argue that the following practices helpful for engaged ethicists can be drawn from empirical work on animal cognition and the field of animal metaphysics: 1) that applications of an ethical theory may change due to shifting empirical data; 2) that one should be aware that models of cognition focus on select traits and this could impact application; 3) that one should use species specific studies (when possible) when trying to apply animal ethics; 4) and, most importantly, that work in animal ethics needs to be multidisciplinary, in that it needs to draw from work in a multiplicity of fields and involve experts from various disciplines. This could enrich both empirical and theoretical work. While they may not be applicable to all animal ethicists, as work in this field is becoming increasingly sensitive to relational and contextual factors (see Palmer, Grandin, and Rollins), the following general guidelines could be useful for future work.

First, one of the most obvious lessons that can gained from a cursory analysis of current work in animal metaphysics is that one should be sensitive to the fact that work on animal cognition/capabilties is not stagnant. Models of animal cognition are both contested in the field and constantly evolving. It follows from this that the application of ethics that rely on these models may also be contested or change as new research may render the previous application problematic. Thus the application of an ethical theory may change. For example, if new research

on sea slugs intimates that these creatures are subjects of a life (meaning that they can want and expect things, need and desire things, and have a sense of the future and past), then an ethicist applying Regan's rights based approach may need to revise her application of this theory (to sea slugs) and any subsequent ethical recommendations. Similarly, as discussed above, if a theorist using Singer's approach replaced Nelkin's (1986) model of pain with one that does not emphasize the neocortex when performing her utilitarian calculus, then this could affect ethical recommendations and bring previously unrecognized issues into the ethical purview. For this reason, one could argue that the application of animal ethics should be viewed not as absolute, universal, or above the empirical but as recommendations tied to a particular time, place, and to currently accepted knowledge paradigms. However, it is important to note that this issue may affect various ethical theories differently as ethics often focus on different capacities, such as reason, sentience, flourishing, or well-being. In addition, those not tied to cognitive functions will not be affected by such changes.

A second lesson that can be gained from animal metaphysics is that ethicists may be implicitly accepting or using models of pain, cognition, sentience, welfare, etc that privilege one set of traits over various other possible traits. As intimated above, models of cognition often focus on one aspect of consciousness (such as reason, counting, language use etc.) rather than a myriad of possible others. Indeed, Pepperberg and Lynn (2000) state that simplifying and isolating such aspects is part of the scientific process itself and is an integral feature of empirical studies on animal cognition. Empirical research on these traits is then used to determine whether or not particular animals have various cognitive traits. For example, when examining "consciousness," scientists have broken down this concept into various aspects, such as controlled (in contrast to automatic behavior), working memory, awareness, or attention

(Pepperberg and Lynn, 2000). Indeed, these aspects are sometimes intertwined, as higher order cognition is defined as awareness by some researchers (see Pepperberg, 1994) and awareness in turn is sometimes defined as controlled behavior (Chalmers, 1996). In addition, studies aimed at determining whether or not animals have one or more of these aspects test for various abilities thought to indicate possession of it, such as problem solving, surprise, or completing complex tasks (Pepperberg and Lynn, 2000; Pepperberg, 1994; and Natsoulas, 1978). Finally, some scientists argue that consciousness and awareness are niche based and multilevel, meaning that cognitive traits largely develop in certain ecological niches and members of a species can exhibit some but not necessarily all aspects of traits in particular situations (Goodyear et all, 2000; Delacour, 1997, Pepperberg and Lynn, 2000).

While much of this work is beyond the scope of animal ethics, when applying ethical theories, it is important to be aware of this complexity and that certain models, theories, or scientific studies are by necessity privileging certain traits over others. For this reason, one model or study may intimate that various non-human species may have higher-level cognitive traits (consciousness, sentience, attention, awareness etc.), while another study may not. What this means on the ground is that ethicists or various stakeholders applying the same ethical theory but using different models of consciousness may come to radically different conclusions. For example, even when relying on current research, a rights based approach may appear to be both applicable and not-applicable to a particular animal depending on the model of cognition used.[18] While in the realm of theory this issue may appear to be a secondary concern, it will have real world implications when applying animal ethics on the ground, such as determining what

---

18 While Regan (2004) attempts to bypass this problem by arguing that all normal adult mammals should be considered subjects of a life, the above work on animal cognition illustrates how this statement may at best be considered an over simplification.

types of animals fall under ethical purview. Thus one should be sensitive to the possibility that

some models may not be appropriate for the species involved, especially if cognitive traits are

possibly ecologically niche based. Additionally, recognizing that stakeholders may be using

different models of cognitive functions could help engaged ethicists better work with a plethora

of groups with vested interests in the human-animal contact zone, as "right" behavior is often

determined by a group of experts rather than the lone ethicist. Finally, understanding that

cognitive traits may be tied to particular ecological niches and that different traits could be

exhibited in various contexts could help ethicists and stakeholders committed to animal welfare

or animal flourishing better apply these theories. Thus a third lesson that can be gained is that

one should use species specific studies when possible, as is illustrated by various species specific

studies in animal metaphysics (such as those on primate mindreading and bee behavior).

This brings us to the most important lesson that can be learned from the relationship

between animal metaphysics and empirical work on animal cognition. According to Oliver

(2009), Palmer (2010), Dennett (1996), and various other scholars, work in animal ethics often

draws on theories and empirical studies on animal cognition when identifying similarities and

differences between humans and non-human others in order to form the basis for ethical worth.

Here animal ethics largely uses empirical findings or models of capabilities as "evidence" to

support various ethical claims. Thus animal ethicists draw from work in animal metaphysics and

empirical studies but largely do not contribute to the creation of these studies or help direct the

research. In fact, Fraser (1999) argues that animal ethicists have isolated scientists working in the

area of animal welfare, 1) as they often apply single ethical principles, rather than balance

competing principles and values, 2) ignore contextually based ethics found *in situ*, such as ethics

of care, 3) lump taxonomic groups into one moral category, and 4) use ethical theories to propose

138

wholesale solutions to diverse human-animal contact zones and diverse practices (p. 171).

In contrast, as Pepperberg and Lynn (2000) intimate in their synopsis of empirical work on animal consciousness, debates on how to define consciousness and whether or not consciousness should be postulated draw upon theories developed in animal metaphysics and philosophy of mind, such as that of Carruthers (2000) and Searle (1998). In fact, contextual theories of animal ethics, such as those of Haraway (2008), have been highly influential in the development of new methodologies used to guide animal research in the social sciences, such as in the field of animal ethnography (Kirksey and Helmreich, 2010). Finally, as discussed above, there is also interesting work being done on how best to apply scientific criteria or laws, such as Morgan's Law or the criterion of simplicity. Here I argue that this reciprocal relationship (albeit no relationships are perfect) strengthens both the theoretical work coming out of animal metaphysics and the empirical work on animal consciousness and various other capabilities.

The field of engaged animal ethics, as it includes working with various stakeholder communities in order to address ethical problems concerning animals on the ground, will only benefit from adopting a similar model of reciprocity with scientific disciplines working on animal welfare issues and communities in human-animal contact zones. In fact, Fraser argues (1999) that cultivating such relationships are necessary for animal ethics projects to be successful and can help strengthen work on animal welfare. Regarding engaged ethics, the application of animal ethics that are focused on capabilities, such as respecting "interests" or limiting pain or enabling animal flourishing, will necessarily have to draw from species specific work on animal behavior. As anyone who has ever worked on a farm knows, chicken flourishing is much different from pig flourishing, various animals have markedly different pain behavior, and different contexts (such a CAFO vs a free range system) often require distinct welfare practices.

As Fairlie (2010) argues, wholesale solutions to ethical issues in diverse human-animal contact zones are impossible. Thus ethicists need to draw upon species and context specific work.

Second, according to Fraser (1999), scientists working on animal welfare issues have been struggling to define or conceptualize key terms important for their work, such as "welfare," "interests," and "needs". These debates have significantly paralleled philosophical debates on this topic and thus open up opportunities to link research to philosophical work on such capabilities and the opportunity for philosophy to contribute to such research, albeit at the theoretical level. While this may be and indeed is difficult, as animal welfare science has distanced itself from animal ethics due to some scientist's refusal to "accept emotions and other subjective experiences of animals as legitimate topics for scientific inquiry" (Fraser, 1999), current animal welfare scientists, such as Dawkins (1993) and Griffin (1992), are challenging this position and reviving interest in the subjective experiences of non-human animals.

In addition, as discussed above, human-animal contact zones include stakeholders with various values, needs, desires, and ethical inclinations. While ethics may be theoretically sound, the application of an ethical theory will fail if it does not identify and address at least some of these contextual factors. For example, as Palmer (2010) argues, applying Singer's (2009) approach to farming contexts misses factors that play an ethical role, such as the relationship between humans and domesticated animals. For instance, a farmer may not want to change her animal husbandry methods because she is weighing competing ethical duties towards her family, the bank, or to future generations, that may outweigh Singer's ethical imperative. Drawing upon sociological and anthropological research on communities working or living in human-animal contact zones would help engaged ethicists identify potentially conflicting values and duties. Similarly, philosophers can provide tools of critique and more nuanced definitions of values and

ethics that could help animal welfare scientists better understand why stakeholder groups are not applying their findings.

Thus work in animal ethics can learn valuable lessons from animal metaphysics, such as that "best" applications of an ethical theory may change due to shifting empirical data; that one should use species specific studies, when possible, when trying to apply animal ethics *in situ*; and, most importantly, that work in this field needs to be multidisciplinary, in that it needs to draw from a multiplicity of fields and involve experts from various disciplines. Indeed, following these lessons could be highly beneficial for applying animal ethics on the ground as respecting the interests of even a single species is very difficult to bring about and requires a sensitivity to debates on animal capabilities and expertise beyond philosophy proper. This could enrich empirical, theoretical, and practical work on the ground. While it may not be all in the application, ethics and theories of animal cognition certainly impact human-animal contact zones.

The next chapter of this dissertation further explores how values and ontological assumptions influence areas of ethics beyond animal ethics proper. Like the above analysis of this field, the next chapter illustrates how conceptions of what it means to be human, to be an animal, and the relationship between these two categories markedly impacts the creation and application of urban environmental ethics. When taken as a whole, chapters five and six provide an example of the future trajectory of my work beyond this dissertation, as they clearly illustrate the value of teasing out how values and various commitments discussed in this dissertation influence ethical theory and behavior towards non-human others both singly (animal ethics) and as various species (environmental ethics). Indeed, there is a plethora of work to be done identifying these commitments and teasing out how they influence research and behavior in

various contexts (such as during swine or bovine husbandry, when farmers choose to apply or not to apply ecological service research, or during the harvesting of various crops and natural resources) and potentially creating new concepts, epistemological criteria, ethics, and practices that may be useful when deciding "right action" in human-animal contact zones. As discussed in the preface, the dissertation is only a piece of the much larger project of following what I call a "metaphysical care ethic" or taking the time to properly tease out various assumptions, thoughtfully explore human-animal entanglements, and to do engaged philosophy on the ground.

Chapter 6: What Urban Environmental Ethics Can Learn from Nineteenth Century Cities

Currently environmental philosophers are working to address the "urban blind-spot" (Fox, 2001; Light, 1995), or the field's disregard of environmental issues in urban contexts. These trends in the field are both laudable and necessary but may be hindered by unexamined metaphysical assumptions built into the concepts used to craft theory. Indeed, as illustrated by the work of Haraway (1989), Harding (1993), and Martin (1997), unexamined values and assumptions influence all areas of scientific inquiry and, according to Mills (2005), this analysis can be extended to theoretical work, as well. It follows from this that an environmental ethic built upon problematic concepts might be unknowingly influenced by such assumptions resulting in ethical blind-spots. For this reason, the main purpose of this paper is not to provide another urban environmental ethic but to help build a strong conceptual base for these projects using historical contexts.

In the first section of this paper, I outline insights that current theorists working in environmental ethics can gain from the analysis of nineteenth century cities, contexts largely ignored by scholars working in this field. During this time period cultural changes shifted key metaphysical conceptions that greatly impacted human-animal relations and the structure of urban areas. An analysis of urban areas during this time reveals two sets of competing conceptions that, when accepted, help shift both the design of urban environments and our relationship with the natural world in these contexts. After this historical analysis, I apply these insights to the field of environmental ethics in order to illustrate how they contributed to the "urban blind-spot" and skewed early work on urban environments.

I go on to argue that key metaphysical conceptions found in pre-nineteenth century urban

contexts could inform current projects in this field, while "de-animalized" or "cleansed" conceptions that influenced the structure of post-nineteenth century urban areas could potentially harm projects, especially those focused on increasing sustainability in urban areas. While some of these metaphysical conceptions already inform environmental work in urban areas, there are currently no urban environmental ethics that include all of these aspects. Before making this argument, however, it is especially important to outline how this paper contributes to the field and define key terms, such as "metaphysical conception," as this paper is intended for interdisciplinary audiences.

6.1 Contributions to the Field

While humans have been crafting and using "ethics" or norms to guide behavior concerning animals and the environment in a multiplicity of contexts since the beginning of the discipline of philosophy (Thompson and Noll, 2015), the specific field of philosophy known as environmental ethics developed during the 1960s and 1970s, with the goals of challenging anthropocentrism and crafting rational arguments to support claims that non-human landscapes and communities have intrinsic value (Brennan and Lo, 2011). However, this field-wide focus and the subsequent identification of pristine forms of nature, such as wilderness areas, as repositories of value resulted in what is commonly known the "urban blind-spot" in environmental ethics (Light and Wellman, 2003). According to Light and Wellman (2003), the field largely conceived of "non-natural" environments as not deserving rights and obligation (as they are not pristine) "in the same ways as 'natural' environments and in some cases have even been held up as examples of environmental disvalue" (p.1). In response, current environmental philosophers, such as Fox (2001), King (2000), Light (1995, 2001), Palmer (2003), and de-Shalit (1996), have attempted to address environmental issues in urban areas. However, even with this

144

current work on urban environmental ethics, nineteenth century urban contexts are largely ignored by theorists working in this field. Thus one of the contributions of this paper is to help address this blind-spot by providing an analysis of nineteenth century cities that could potentially contribute valuable insights to the field.

In addition, the analysis in this paper largely focuses on non-human animals in urban settings and not specifically on flora, while it does touch upon urban farming and larger ecological systems. This focus is strategic as animals have historically been absent from various segments of environmental ethics (Palmer, 2003). According to Light and Wellman (2003) and Palmer (2003), environmental ethics proper was historically understood as distinct from animal ethics, as environmental ethics focused on determining whether or not "nature" or larger ecosystems have intrinsic value in contrast to the project of determining whether or not humans have duties towards individual animals. Additionally, work on non-human animals plays a small role in the under-researched area of urban environmental ethics (Palmer, 2003; Michelfelder, 2003). However, non-human animals both use the built environment (Palmer, 2003) and, as will be discussed below, have helped to shape the structure of built environments (Tarr, 1999). Thus, again, one of the contributions of this paper is to help address this second blind-spot by providing an analysis of nineteenth century cities that largely focuses on how human-animal interactions in this context shifted conceptual landscapes.

As stated above, I argue that an analysis of nineteenth century cities reveals two sets of competing metaphysical conceptions that, when accepted, shift both the design of urban environments and our relationship with the natural world in these environments. However, before presenting this argument, it is important to define how this term will be used. Specifically, what are metaphysical conceptions and why do they impact work in environmental ethics?

145

According to Rose (2003), metaphysics can be understood in two ways: In the specific sense, metaphysics is a branch of philosophy that has historically taken up the project of explaining the world by referencing transcendental features, such as reason, history, and first substances. More recently, this philosophical field focuses on better understanding basic concepts regarding what something "is," the structure of "being" or the mind, and the relationship between concepts (Inwagen, 2014). More generally, metaphysics can be understood as "the project of delimiting and determining the governing features of everyday social existence (or metaphysical conceptions)" (Rose, 2003, p. 462). In the later sense, metaphysics is deeply interdisciplinary and, according to Rose (2003), the project of doing metaphysics is embedded within the fabric of the social sciences.

Building off of both these definitions, for the purposes of this paper, a "metaphysical commitment" should be understood as a basic governing feature of social life (Rose 2003) or a foundational concept that a person holds regarding what something "is" and the unexamined connections between basic concepts (Inwagen, 2014). While Rose (2003) argues that the field of philosophical metaphysics is outmoded, in actuality, such conceptions are deeply influential in all areas of life, such as in the formation of identity (Ricoeur and Blamey, 1995), the labeling of individuals and areas (Derrida 2008), such as urban and wilderness areas or human and animal, and in philosophical and scientific inquiry (Haraway, 1989; Harding, 1993; Martin, 1997; Wolfe, 2008). Indeed, according to Harding (1993), metaphysical and value conceptions influence various stages of research, such as the choice of questions investigated, the formulation of research projects, and the interpretation of data.[19] Like in the sciences, these conceptions

---

19 For similar arguments made in the sciences, see Pepperberg's (1994) critique of previous work on animal cognition, Savage-Rumbaugh et al's (2000) work on ape consciousness and specifically their critique of previous work in the field, and Andrews (2011) analysis of anthropomorphism in the sciences.

influence theoretical work in environmental ethics and in the subfield of urban environmental ethics. As will be argued below, different metaphysical conceptions can either hinder or help the project of crafting a working urban environmental ethic. In the next section of this paper, I identify key metaphysical conceptions that can be useful for the project of addressing environmental issues in urban contexts.

6.2 An Analysis of Nineteenth Century Cities

This section consists of a general analysis of nineteenth century cities, as during this time period, key conceptions of the previous age conflicted with new ideas and were radically changed or replaced. However, it should be noted that the analysis below is cursory at best, as I will be drawing from the vast literature of urban studies. This discipline, established during the latter half of the nineteenth century (Steinhoff, 2011),[20] produced a rich body of scholarly work examining the various causes of urbanization, the evolution or development of cities over time (Tarr, 1999), and the collection of various quantitative and qualitative data on urban life (Gamber, 2005). For this reason, the purpose of this section is not to provide an exhaustive analysis of nineteenth century cities. Rather, it's aim is to identify key metaphysical commitments, illustrate how these shifted during the time period, and provide an example of how work is important for the field of environmental ethics.

For example, according to Brantz (2011), two conceptual changes shifted human-animal relationships during the nineteenth century. First, enlightenment thinking and a growing emphasis on rationality and science, along with an insistence on progress and change, impacted these relationships and drastically influenced the structure of modern cities and the place of

---

20 See Steinhoff's (2011) brief synopsis of the field in his paper on nineteenth century urbanization and the sacred and Katznelson's (1991) essay "The Centrality of the City in Social Theory."

animals within this structure. Second, specific concepts of "civilization" and "domestication" began to emerge through the juxtaposition of "wild and primitive" and "tame, cultivated, and household" (Brantz, 2011, p. 75). According to Palmer (2011), the concepts "wildness" and "domestication" do not signify capacities but different relationships between humans and animals. Wildness emphasizes the absence of a relation and a disposition that is markedly not "tame," while a domesticated animal is one that is both controlled by humans and has been made dependent upon humans in various degrees. These emerging concepts (civilization and domestication) built upon key dualisms (wild/tame, primitive/cultivated etc.) then helped to shift the accepted definition of the home from an area where different types of animals were welcomed, to a place where only "pets" (or highly dependent animals) could enter. Due to these cultural changes, farm animals historically kept in the home, such as cattle, pigs, and chickens (Edwards, 2011; Pascua, 2011), were essentially banished from the house (Clutton-Brock, 2011).[21] As will be discussed below, the reliance on rationality and science (especially in the area of public health) coupled with the separation of most animals from the home had palpable consequences in urban environments during the nineteenth century.

In addition to these conceptual changes, Atkins (2012a) argues that humans historically placed non-human animals living within city limits into the following general categories: 1) useful animals (or those used for meat, transportation, etc.); 2) animals that humans are able to enjoy (various wild animals that bring enjoyment, such as song birds and increasingly zoo animals); 3) desirable animals (domesticated animals allowed into the human sphere, such as

---

21 It is important to note here that historically various types of farm animals were not fully dependent upon humans. For example, pigs were largely self-sufficient and allowed to forage during the day without human supervision prior to the industrialization of pork production (McNeur, 2011). Indeed, even today, in contrast to industrially raised broiler chickens, escaped sows can often survive quite well on their own. Thus traditional types of farm animals could be understood as markedly different from pets or those that were bred for companionship rather than production purposes.

companion animals); and 4) animals that transgress human-animal boundaries (rats, cockroaches, and other "pests") (p.3).[22] While it should be noted that these categories are open to critique[23] and that animals can belong to several categories at once, they provide a useful schema to better understand 1) how humans generally categorize animals in urban environments and 2) the dominant relationships between humans and non-human others in these environments. Indeed, Atkins (2012a) goes on to argue that, while the first three categories of animals were largely invisible within urban theoretical literature, the fourth category continues to be highly influential in "human-animal boundary" work that examines how shifting animals into this category often provided justification for the "cleansing" of non-human others from a "clean" urban environment (p.3). Indeed, claims that animals are a "nuisance" and thus should be removed from the city commons often implicitly or explicitly make use of the argument that animals have transgressed human-animal boundaries (see Michelfelder, 2003; McNeur, 2011; Mitzelle, 2011). Like the conceptual changes above, categorizing previously accepted animals as transgressors or nuances also shaped urban environments during the nineteenth century.

Indeed, one of the consequences of the separation of all but desirable animals from the home was the increasing demand to de-animalize or remove animals considered a nuisance (i.e. not under the direct control of humans) from the city sphere. For example, this conceptual shift influenced the fight to remove pigs from New York City's landscape during the latter part of the nineteenth century. The above definition of the home formed the foundations of the upper class cultural ideal of the cleansed and increasingly "private" space of the home that was celebrated in

---

22 Also see Mitzelle's (2011) history of the pig in cities and Edwards' (2007) treatment of domesticated animals in Renaissance Europe.

23 Palmer (2003) argues that the term "animal" is itself problematic and increasingly difficult to define. Indeed, Derrida (2008) argues that placing all non-human animals into one category is itself problematic, as it both creates a gulp between human animals and all others and erases the differences between various non-human animals.

popular literature *ad nauseam* (Gamber, 2005). While a large percentage of the population never obtained this ideal, instead living in boarding houses, those who did not achieve this middle class standard were often despised. In addition, prior to the nineteenth century, all classes owned pigs, but cultural factors combined to enable middle-class and wealthy New Yorkers to abandon raising livestock and cultivating gardens in favor of purchasing food at market (McNeur, 2011). In contrast, African and Irish American laborers often relied upon raising pigs in the city to support their families, with humans, pigs, and other animals often sharing close living space. The cultural ideal of the home cleansed of working animals distanced the upper class from most animals (all but pets and horses), connected raising livestock to the lower class, and essentially shifted this class' perception of pigs from that of a useful animal to nuances or ones that transgress human-animal boundaries.

However, this separation may not have impacted the structure of the city, if not for New York's sharp increase in population. During this time, upper and middle class families began moving into lower class neighborhoods where swine often roamed the streets during the day, feeding on garbage, before returning to their homes at night (McNeur, 2011). This factor, combined with the upper classes distance from swine, led to major legal and physical battles over whether or not pigs should be allowed in the cities, in particular, and whether or not public streets should be used as commons, in general. While the wealthy barred pigs from Atkins' (2012a) first three categories listed above, arguing that loose pigs impeded progress and were a nuisance (as they impeded transportation and performed improper acts on the streets), and a health hazard, the poor argued that these animals were useful, as they cleaned up the streets and providing food for families (McNeur, 2011). The end result of this conflict was the removal of pigs from the city proper and new rules for the use of public spaces.

150

In essence, this argument was not simply about pigs but a deeper conflict concerning animals' place in the city, the proper use of public space (McNeur, 2011), and assumptions concerning human-animal relationships. The arguments of the wealthy commonly alluded to concepts of "progress," "modernity," "nuisance," "disease," and "wildness." Pigs and their owners were characterized as the "Other" who were wild, primitive, and vulgar (McNeur, 2011; Burke, 1982), in contrast to the wealthy and middle class who were tame, cultivated, and working towards the enlightenment ideal of progress. In this context, "tame," "cultivated," and "progress" were juxtaposed against "wild," "primitive," and "vulgar." Building off of Palmer's (2011) insight that such terms signify different relationships, the result was the conflict of two very different conceptions or understandings of how to live, proper human-animal relationships, and the subsequent place of animals in the public sphere.[24] Thus emerging concepts (such as civilization and domestication) built upon key dualisms (such as wild/tame, primitive/cultivated etc) moved beyond influencing the structure of the home and helped inform arguments aimed at cleansing the city commons of all animals considered a nuisance by the dominant class, including, interestingly, stray dogs (Howell, 2012). The above conflict was as much about conflicting metaphysical assumptions, as it was about land use policy.

In addition, anti-hog arguments made use of shifting conceptions of disease in order to claim that they were public health risks. Indeed, according to Atkins (2012b), it was only after commonly accepted views of disease and current conceptions of dirt and filth began to shift (due to the above cultural changes) that the process of "de-animalizing" the city began in ernest. Examples of shifting views include the commonly held belief that sickness can be transmitted

---

24 While this paper largely focuses on animals, the above conflict also aimed at shifting the behavior and habits of the working class in cities. McNeur (2011) provides an excellent overview of this topic in her essay "The 'Swinish Multitude': Controversies over hogs in Antebellum New York City."

through odors and the "folk wisdom" that illness was connected to the increasingly chaotic and dirty environment of the city (Atkins, 2012b; Barnes, 1995; Coleman, 1982; McNeur, 2011).[25] According to Barnes (1995), "several significant elements of the pre-germ theory etiology of tuberculosis survived intact through the late nineteenth century... Among these elements are filth, stench, and overcrowding, all symptomatic of the underlying pathology of the city" (p. 25). These conceptual shifts greatly impacted the "on the ground" environment of the city, as human and animal lives were largely integrated in urban landscapes during this time. Indeed, slaughter houses were often located in neighborhoods, household pigs ran free, and manure from drovers passing through, household animals, and horses used for transportation filled the gutters (Atkins, 2012b, p. 85).

These shifting conceptions of disease, dirt, and filth manifested themselves into sanitary policing, where smells from manure, trash, drains, slaughter-houses, and other sources became the target of increased legislation (Atkins, 2012b; Stallybrass and White, 1986). For example, the populations' increased fear of disease (specifically rabies) greatly impacted the number of pets people owned and, for the first time, police were used to muzzle and round up stray dogs (Howell, 2012). In addition, legislation concerning dirt and filth, coupled with rising land costs, helped push slaughter houses and farming operations out of the city proper (DeMello 2011). Such legislation, coupled with technological advances that displaced horses as the primary means of automotive power, had the effect of the attempted "cleansing" the modern city of animals either not under human control or considered enjoyable. Indeed, shifting conceptions of disease helped move animals previously thought of as "useful" and "desirable" (Atkins, 2012a)

---

25 It is important to note here that this chaotic and dirty environment was not solely due to animals within in the city but also changes brought about by the industrial revolution, such as gas lamps, factories, and industrial waste (Barnes, 1995).

into the category of animals that transgress human-animal boundaries or "nuisances."

In addition, according to Atkins (2012c), these attitude and policy changes directly undermined a complex and largely sustainable relationship[26] between urban areas and what he calls the "charmed circle," or the area surrounding the city (from 10-50 miles, depending on technology) that could benefit from manure produced there (p. 53). Specifically, nitrogen and other nutrients found in animal manure and human "nigh soil" were reincorporated into the surrounding environment through its use as a fertilizer in peri-urban fields and surrounding areas. In return, vegetables were transported into the city markets and hay and oats were used to feed the horses that, in turn, created more manure. Horticulture operations, or "land touched by the spade," largely took place within city limits, as these farms grew "delicate" crops that could take advantage of immediate demand, such as asparagus, celery, and broccoli (Atkins, 2012c, p. 54). While operations farther outside the city grew crops that did not fetch a high price at market, such as cabbage, beans, and potatoes.

When understood from this perspective, the large piles of manure and night-soil that fed the sanitary outcry were not piles of "dirty filth" but resources to be sold and used in the surrounding areas (Atkins, 2012c). This "manured region" was an area of agricultural prosperity predominantly sustained by manure produced in the cities. Its radius was largely controlled by the price of carting waste products to farms and horticulture operations, as feces is a heavy, low value product. In addition to London, other major cities such as New York, Philadelphia, Paris, and Berlin also enjoyed the prosperity brought about by the manured region. However,

---

26 According to Raffaelle et al (2010), the term "sustainability" is itself a contested concept, with different theorists, agencies, and practitioners embracing various definitions. This paper will be using Norton's (2005) definition where the concept signifies "a concern about and acceptance of responsibility for the future state of the world and the quality of life essential to it" (Raffaelle et al, 2010, p. 73).

legislation, the change in attitudes concerning non-human animals' roles in cities, the development of the automobile and train, and the rise in land prices helped to dissolve these operations (Atkins, 2012c).

6.3 Lessons from History

Now that we've taken a closer look at nineteenth century urban contexts, what can we learn from them? Here I argue that the above analysis helps illustrate how shifting concepts or definitions of "civilization," "domestication," "home," "disease," and "progress" greatly influences concepts used in current environmental ethics, such as "city" and "nature." The above analysis helps to identify metaphysical conceptions that directly influenced the structure of cities prior to the nineteenth century and after this time period and, also, our relationship with animals and the environment within these contexts. For example, prior to the nineteenth century, the following key conceptions appear to be embedded within (at least implicitly) accepted notions of the city: 1) a conception of the "city" and "nature" in non-dualistic terms, as cities were integrated habitats, with both humans and various categories of non-human animals sharing the same space (Atkins, 2012b; Brantz, 2011); 2) the conceptual connection between urban and rural areas as a "sustainable" unit, with both areas forming a sustainable whole (Atkins, 2012c, p. 53); and 3) the integration of environmental and animal issues within urban areas, as shifting ideas and policies regarding proper use of urban commons greatly impacted humans and animals within the city and the structure of the city itself.

In contrast, post-nineteenth century notions of cities appear to be based upon the following conceptions: 1) the increasing separation of humans and non-human animals (from houses and urban commons), grounded in a fear of disease and shifting conceptions of filth, progress, and acceptable levels of wildness; 2) the separation of urban and rural pursuits and thus

the delineation of urban and rural areas; and 3) the distinction between "domesticated" and "wild" animals and the cleansing of non-human others identified as nuances from the urban sphere. This analysis is particularly important as it illustrates how advances in public health, social factors, such as dramatic increases in population, and changing attitudes helped shift key concepts during this period and subsequently influenced land use patterns in cities. Indeed, one could argue that post-nineteenth century concepts helped to shape current cities, as this era is understood to be the birth of the "modern" city (Atkins, 2012a).

In the next section of the paper, I argue that metaphysical conceptions that form the foundation of anti-urban arguments in environmental philosophy developed from post-nineteenth century notions of urban life, and are thus using concepts that have at least partially been cleansed of the non-human animal communities that we profess to have ethical duties towards. Thus it is not surprising that environmental philosophy did not properly address environmental issues in urban contexts (Light, 2001). If this is the case, then we must be particularly careful when developing urban environmental ethics so as not to import the above metaphysical conceptions into current ethics, as they may be anathema to the overall project. Thus what is needed is a competing set of metaphysical conceptions/concepts that may provide a stronger base for developing modern urban environmental ethics, such as those found in pre-nineteenth century urban contexts.

6.4 Current Environmental Ethics

As outlined above, the specific field of philosophy known as environmental ethics developed during the 1960s-70s (Brennan and Lo, 2011) and, for the past three decades, largely focused on addressing a limited set of abstract questions, such as whether or not natural environments have intrinsic value (Light and Wellman, 2003; Michelfelder, 2003). While there

could be several reasons for this trend, one predominant reason is that if the natural world has value in itself and/or a non-anthropocentric centered form of value, then we, as moral beings, have particular duties and obligations regarding nature. This move allows environmental issues to be decided by something other than anthropocentric human preferences, which are ultimately grounded in shifting social practices and cultural norms (Taylor, 1986). While the push to find or argue for the non-instrumental value of nature can be understood as an important project because it provides a foundation from which environmentalists could argue for the greater protection of natural areas, arguably, focusing on abstract metaphysical and ontological questions, such as intrinsic value, has consequences; consequences such as the "urban blind-spot" in environmental ethics.

According to Light (2001), in addition to a focus on abstract questions, another reason why urban environments may have been largely ignored by environmental philosophy is due to the widespread assumption that cities separate humans from nature and this contributes to the destruction of the environment (p. 45). Roughly, the argument goes as follows: If urbanites are separated both psychologically and physically from nature, then this population will not care about the environment and thus will not curve their consumption or manage their "ecological footprint" (Rees, 1995; Rees, 1999). In other words, according to Rees (1999), separating people from the land that sustains them has severe ecological consequences. In addition, cities are unsustainable in a pragmatic sense, as rural turmoil can break the necessary supply chains needed for a city's survival. Thus it is better for both the environment and human populations if people lived in rural rather than urban areas. At the very least, wilderness areas should be conserved so that urbanites have the opportunity to bond with the natural world (Dowie, 1996). According to Light, such critiques grounded in "ecological footprint analysis" often form the

lynchpin of anti-urban arguments in environmental philosophy. Similarly, de-Shalit (1996)

argues that environmental philosophy suffers from "ruralism" or the simultaneous glorification

of country life coupled with a conception of urban life as degraded and inferior. Light (2001)

goes on to argue that, contrary to this position, there are several reasons why we should include a

push towards densely populated urban areas as a part of a larger environmental sustainability

plan, such as that cities consume less energy per capita than rural areas. However, if this is the

case, then crafting an urban environmental ethic is of the utmost importance.

While Light (2001) goes on to craft his own ethic, there are three important metaphysical

conceptions that form the foundation of most anti-urban arguments: First, the above arguments

accept specific conceptualizations of the "city" and "nature" that are in dualistic opposition to

one another. The claim that urbanites are separated both psychologically and physically from

nature is built upon specific conceptions of nature and the city as separate and mutually

exclusive entities. Second, cities and the countryside are largely conceptualized as distinct areas,

with the city generally understood as an area of consumption and the country as an area of

production, rather than conceptualizing these two areas as forming an ecological whole. This

specific dualistic coupling forms the foundations of mandates to curve or limit one's ecological

footprint.

Third, the above anti-urban arguments utilize a conception of nature that is largely

cleansed of non-human others, as it is difficult to maintain the claim that cities are bereft of

nature if you include non-human animals within that category. Here "cleansed" does not signify

the complete removal of animals but the removal of animals not in Atkins' (2012a) second (wild

animals enjoyed by humans) and third (desirable or domesticated animals) categories. Animals in

Atkins' first category (useful animals) left the city during the later nineteenth century as

increasingly "useful" animals, such as horses, were replaced by technology (Tarr, 1999) and as processing activities, such as those in slaughter houses, gradually moved out of city proper. Non-human others in the fourth category (those that transgress boundaries) are continually being removed. Interestingly, both domesticated animals and animals for enjoyment signify a relationship or social contract with humans. This relationship can be understood to move them out of nature proper (Palmer, 2011). In the case of domesticated animals, this relationship is one of control (Palmer, 2003), while enjoyed animals are either controlled, as in zoos, or are allowed into human environments but at the constant threat of removal, if they transgress boundaries or are considered a nuisance. Thus one could argue that these animals have largely become invisible in urban environments. This integration and the subsequent removal of first and fourth category animals helped contribute to a conception of nature that is largely cleansed of non-human others. Indeed, as Light and Wellman (2001) argue, there is often a clear division between environmental ethics, or those that focus on duties towards ecosystems and landscapes, and animal ethics, or those that focus on animal welfare.

Here it is important to note that each of the above metaphysical concepts are currently being contested within the field of environmental philosophy. For example, Light's (2003) urban environmental ethic is built upon the foundational assumption that the city contains nature, as it calls for the enlargement of the boundaries of community to include the environment and for a citizenship ethic that requires active participation and the fulfillment of moral obligations to both human and non-human others. Light advocates using urban parks and natural areas in the city to promote this ethic, thus focusing on cultivating greater connections between humans and animals for enjoyment or expanding Atkins (2012a) second category to include more non-human others.

In addition, Thompson (1994) argues that environmental ethics can learn a valuable

lesson from agriculture; specifically, we need to include "an ethic of production" in environmental ethics, as production is necessary for human life as we know it (p. 12). While Thompson's ethic of production has not yet been integrated into an urban environmental ethic, it could help renovate previous conceptions of the city as an area of consumption and rural areas as production zones. Indeed, it could also provide the foundation for environmental ethics specifically tailored to areas of production, as the city was historically an area of production (Atkins, 2012d). This approach could be informed by an analysis of the history of useful and domesticated animals in nineteenth century cities.

Finally, theorists are working to integrate environmental and animal ethics in complex contexts, expand categories, such as wildlife, and break down conceptual boundaries. For example, Michelfelder (2003) argues that wild creatures are present within the urban landscape but relatively invisible to the human eye and Bird (1987) states that urban wildlife, in reality, do not number in the thousands but in the millions. These theorists argue that urban "wildlife" does not consist of easily visible cougars or wolves (i.e. animals that transgress human-animal boundaries). In actuality, the urban natural world includes many types of wildlife that largely fit into these areas such as micro-organisms, fungi, dandelions, birds, squirrels, mice, possums, and the occasional coyote. Indeed, arguments for the removal of visible "wild-life" often claim that they are a nuisance to humans and/or have transgressed human-animal boundaries (Palmer, 2003), thus moving these non-human others into Atkins (2012a) fourth category. The above critique challenges this trespasser argument, as the city is not a cleansed area, but an area of ecological diversity. In addition, it provides strong evidence for taking such wildlife into account when crafting an urban environmental ethic.

However, while theorists are currently contesting the above metaphysical conceptions

159

that form the foundation of anti-urban arguments, this work is largely understood to be based upon separate critiques of the field of environmental ethics. In contrast, I argue that the metaphysical foundations of anti-urban arguments may come out of post-nineteenth century conceptions of the "city" and "nature," largely informed by shifting understandings of "civilization," "domestication," the "household," "disease, and "wildness." Indeed, the key assumptions that historically influenced the development of post-nineteenth century cities largely map onto the metaphysical assumptions that form the foundation of anti-urban arguments. For example, the conception of the "city" and "nature" as separate and mutually exclusive entities is characteristic of urban areas after the de-animalization of the modern city. The clear delineation of rural and urban areas is also characteristic of cleansed cities. Finally, the conception of urban nature cleansed of animals that are either not under direct control of humans or that bring humans enjoyment may also be informed by urban contexts after working and nuisance animals were removed from urban areas.

While the shifting conceptual landscape that marked the creation of the "modern" city is clearly visible when analyzing historical contexts, many of these metaphysical conceptions have moved into the conceptual background, so to speak. However, as the analysis of anti-urban arguments above and their subsequent coupling to dominant nineteenth century concepts illustrate, they inform both the shape of current cities and do philosophical work in environmental ethics. Specifically, they influence how we come to understand specific contexts, actions, and phenomena within those contexts and can guide projects of critique and the creation of ethics within the field. For this reason, we must be particularly careful when developing urban environmental ethics so as not to import the above anti-urban metaphysical assumptions into current ethics. Indeed, an environmental ethic built upon problematic concepts might be blind to

a large set of ethical issues in urban areas and continue to contribute to specific urban blind-spots. Environmental philosophers may also find the metaphysical conceptions that shaped pre-nineteenth century urban environments useful when developing current urban environmental ethics.

In addition, I argue that these contexts could provide examples of "working" cities where non-human animals, larger ecosystems, and urban production were integrated in a single urban environment. While pre-modern cities suffered from environmental justice issues, as slaughter houses and manure piles were often placed in poor neighborhoods (Atkins, 2012c) and there were many instances of animal cruelty, as domesticated animals were often treated badly and slaughtered in inhumane ways (Atkins, 2012d; Howell, 2012), in at least some instances, these cities also formed largely sustainable systems where useful animals, animals for enjoyment, companion animals, and animals that transgress human-animal boundaries shared a common urban environment (Atkins, 2012). Thus, pre-modern cities could provide examples or models of sustainable and integrated urban landscapes that may be useful when attempting to build workable urban environmental ethics, in addition to insights useful for addressing current urban environmental issues.

However, it should be noted here that changes in views of health and various societal pressures that influenced changes in cities were both good and bad. For example, increasing knowledge of disease transmission and developments in public health led to beneficial changes in urban environments, such as increased sanitation and a decrease in disease transmission (Barnes, 1995). In addition, factors such as rising populations often forced urban populations to adapt. Thus I am not arguing that we somehow should go back to a pre-nineteenth century city structure as, in many instances, this would be impossible for both social and environmental

161

reasons (cities may be too toxic for some animals to fair well). However, now that ecosystem

pressures and social movements, such as the local food and environmental movements, are

making it difficult to ignore many of the impacts of industrialization, these contexts can still

provide working examples that could help inform the design of urban areas, the use of commons,

and policies regarding non-human animals in city limits.

6.5 An Example of the Broader Uses of Nineteenth Century Insights

For example, lets return to the earlier example of swine in the city. The analysis of pre-

modern cities could provide useful insights concerning current problems, such as crises

experienced by the pork production industry in both the US and Europe. Specifically, Fairlie

(2012) argues that these crises are partially caused by breaking our historical relationship with

pigs as recyclers and grain banks. Prior to the 1990s, pigs performed the following useful duties

within urban areas: 1) they ate food unfit for human consumption and 2) they acted as "storage"

containers, as they were fed excess grain during a good year to convert it into meat for later

consumption. In addition, according to Mitzelle (2011), pigs were used as both a garbage

removal service and a source of food within cities. Thus they were, historically, an important part

of urban ecology and were highly efficient recyclers. This relationship was largely broken in

both Europe and the United States due to changing animal feed legislation influenced by disease

scares (such as BSE, which doesn't affect pigs), the increased control of large grocery stores, the

general populations' lack of familiarity with pigs, and economic pressure to create more confined

animal feeding operations, as its hard for the large scale operations to benefit from local resource

boons. The direct result of this legislation is the banning of feeding pigs food scraps (largely

produced in the cities) and thus a shift away from using pigs to recycle food waste. Thus pigs are

now competing with humans for food, as they are being fed grain fit for human consumption,

162

and this effectively erases the profit margins for farmers.

When analyzed from the context of pre-modern cities, again, along with other factors, it appears that shifting conceptions of disease are being used to argue for legislation that continues to undermine an integrated and sustainable urban environment and relationship with non-human animals. In contrast to the pig industry in Europe and the United States, where the majority of pigs are now raised in CAFOs and are fed grain fit for human consumption, the majority of pigs in China (the country that produces over half the world's pork) are raised in backyards and in small facilities (Fairlie 2012). In this context, pigs are often kept behind restaurants and other food establishments so that they can be fed daily food waste. Thus the historic role of pigs as recyclers is largely intact in this region. However, the above modern pressures are currently working to change the relationship with the pig in this area, as well. If our goal is to create urban environmental ethics where sustainability and interspecies relationships are highly valued, then the above shift in pig raising could be understood as an act that moves us away from achieving the goal of creating a sustainable city. Such arguments should at least be at the table during talks on legislation changes, as the consequences of such changes can are far reaching, especially in urban environments. This is simply one example where using pre-modern cities as potential models and sources of insight could be useful when addressing modern environmental issues.

For over three decades, the field of environmental ethics largely focused on addressing a limited set of abstract questions, such as whether or not nature and the nonhuman communities that make up "nature" have intrinsic value (Light and Wellman, 2003; Michelfelder, 2003). This field-wide myopic focus and the subsequent identification of pristine forms of nature, such as wilderness areas, as repositories of intrinsic value resulted in an "urban blind-spot" in environmental philosophy. In response, current environmental philosophers, such as Light (1995,

2001), Palmer (2003), and de-Shalit (1996) have attempted to address environmental issues in urban areas. The main purpose of this paper was to help build a strong metaphysical base for such projects using historical contexts, as work in this area may be hindered by unexamined assumptions found in problematic concepts.

In this paper, I outlined valuable insights that current theorists working in urban environmental ethics can gain from the analysis of nineteenth century urban contexts. Specifically, I argued that an analysis of urban areas during this time revealed two sets of competing conceptions that, when accepted, shift both the design of urban environments and our relationship with the natural world in these contexts. While one set of metaphysical conceptions could help inform current projects in urban environmental ethics, the second "de-animalized" or "cleansed" conceptions that influenced the structure of post-nineteenth century urban areas could potentially harm projects in urban environmental ethics. Thus we need to be particularly careful when choosing a metaphysical base for our current urban environmental ethics, as, depending on your specific project, implicitly accepting certain conceptions could inadvertently work against the overall goals of the project.

BIBLIOGRAPHY

BIBLIOGRAPHY

Abu-lughod, L. (1993). *Writing women's worlds: Bedouin stories*. Berkley: University of California Press.

Altieri, M., Companioni, N., Canizares, C., M., Rosset, M., and C. Nicholls. (1999). The Greening of the ' barrios': Urban agriculture for food security in Cuba. *Agriculture and Human Values*, 16(2), 131-140.

Anderson, E. (2015). Feminist epistemology and philosophy of science. *The Stanford Encyclopedia of Philosophy,* Fall 2015 Edition. Retrieved from http://plato.stanford.edu/archives/fall2015/entries/feminism-epistemology.

Andrews, K. (2011). Beyond anthropomorphism: Attributing psychological properties to animals. In F. Beauchamp (Eds.), *The Oxford handbook of animal ethics* (pp.469-495). Oxford: Oxford University Press.

Armstrong, D. (1973). *Belief, truth and knowledge*. Cambridge: Cambridge University Press.

Atkins, P. (2012a). Introduction. In P. Atkins (Eds.), *Animal cities: Beastly urban histories* (pp.1-19)*.* Burlington: Ashgate Publishing Inc.

Atkins, P. (2012b). Animal wastes and nuisances in nineteenth-century London. In P. Atkins (Eds.), *Animal cities: Beastly urban histories* (pp.19-53). Burlington: Ashgate Publishing Inc.

Atkins, P. (2012c). The charmed circle. In P. Atkins (Eds.), *Animal cities: Beastly urban histories* (pp.53-77)*.* Burlington: Ashgate Publishing Inc.

Atkins, P. (2012d). Urban blood and guts economy. In P. Atkins (Eds.), *Animal cities: Beastly urban histories* (pp.77-107)*.* Burlington: Ashgate Publishing Inc.

Badmington, N. (2003). Theorizing posthumanism. *Cultural Critique*, 53, 10-27.

Barnes, D. (1995). *The making of social disease: Tuberculosis in nineteenth-century France*. Berkeley: University of California Press.

Beaucamp, T. L. (2011). Introduction. In F. Beauchamp (Eds.), *The oxford handbook of animal ethics*

(pp.1-35). Oxford: Oxford University Press.

Bekoff, A. (1997). *Species of mind: The philosophy and biology of cognitive ethology*. Cambridge: MIT Press.

Belsey, C. (1980). *Critical practice*. London: Methuen.

Bentz, V. M., & Shapiro, J. J. (1998). *Mindful inquiry in social research.* Thousand Oaks: Sage.

Bermudez, J. L. (2003). *Thinking without words*. Oxford: Oxford University Press.

Bermudez, J. L. (2009) Mindreading in the animal kingdom. In R. Lurz (Ed.), *The Philosophy of Animal Minds* (pp.145-165). New York: Cambridge University Press.

Bickle, J. (2012). A brief history of neuroscience's actual influences on mind-brain reductionalism. In Gozzano and Hill (Eds.), *New perspectives on type identity* (pp.43–65). Cambridge: Cambridge University Press.

Bird, A. (2013). Thomas Kuhn. *The Stanford Encyclopedia of Philosophy,* Fall 2013 Edition. Retrieved from http://plato.stanford.edu/archives/fall2013/entries/thomas-kuhn.

Bird, D. M. (1987). City critters: a cast of millions. In Lowell W. Adams and Daniel L. Leedy (Eds.), *Integrating man and nature in the metropolitan environment: Proceedings of a national symposium on urban wildlife* (pp.23). Columbia: National Institute for Urban Wildlife.

Bleier, R. (1984). *Sex and gender*. New York: Pergamon.

Bordo, S. (1987). *The flight to objectivity: Essays on cartesianism and culture*. Albany: SUNY Press.

Bordo, S. (1993). *Unbearable weight: Feminism, western culture, and the body*. Sacramento: University of California Press.

Bowell, T. (2014). Feminist standpoint epistemology. *Internet Encyclopedia of Philosophy*, Fall 2014 Edition. Referenced from http:/www.iep.utm.edu/fem-stan.

Brantz, D. (2011) "Domestication of Empire: Human-Animal Relations at the Intersection of Civilization and Acclimatization in the Nineteenth Century." In K. Kete (Eds.), *A Cultural History of Animals in the Age of Empire* (pp.42-59). New York: Bloomsbury Publishing.

Brennan, Y. S. and Lo, A. (2011). *Understanding environmental philosophy*. New York: Routledge Press.

Brooks, A. and S. N. Hesse-Biber. (2007). An invitation to feminist research. In S. N. Hesse-Biber and P. L. Leavy (Eds.), *Feminist Research Practice: A Primer* (pp. 1-24). Thousand Oaks: Sage.

Burke, E. (1982) *Reflection on the revolution in France*. New York: Penguin Classics.

Butler, J. (1990). *Gender trouble: Feminism and the subversion of identity*. New York: Routledge.

Cadena, M. (2010). Indigenous cosmopolitics in the Andes: Conceptual reflections beyond 'politics.' *Cultural Anthropology,* 25(2), 334-370.

Callicot, J. B. (1989). *In defense of the land ethic: More essays in environmental philosophy.* Albany: Suny Press.

Callicot, J. B. (1999). *Beyond the land ethic: More essays in environmental philosophy.* Albany: Suny Press.

Camp, E. (2009). A language of baboon thought. In R. Lurz (Eds.), *The philosophy of animal minds* (pp.108-128). New York: Cambridge University Press.

Candea, M. (2010). 'I fell in love with Carlos the meerkat': Engagement and detachment in human-animal relations. *American Ethnologist* 37(2), 241-258.

Carruthers, P. (1992). *The animals issue: Moral theory in practice.* Cambridge: Cambridge University Press.

Carruthers, P. (2000). *Phenomenal consciousness: A naturalistic theory*. Cambridge: Cambridge University Press.

Carruthers, P. (2004). On being simple-minded. *American Philosophical Quarterly* 41, 205-220.

Carruthers, P. (2008). Metacognition in animals: A skeptical look. *Mind & Language*, 23: 58-89.

Carruthers, P. (2009). Invertebrate concepts confront the generality constraint (and win). In R. Lurz (Ed.), *The philosophy of animal minds* (pp.89-108). New York: Cambridge University Press.

Chalmers, D. J. (1996). *The conscious mind: In search of a fundamental theory.* New York: Oxford University Press.

Clayton, N., Emery, N., and Dickinson, A. (2006). The rationality of animal memory: Complex caching strategies of western scrub jays. In S. Hurley and M. Nudds (Eds.), *Rational animals?* Oxford: Oxford University Press.

Clutton-Brock, J. (2011). How domestic animals have shaped the development of human societies. In L. Kalof (Eds.), *A cultural history of animals in antiquity* (pp.75-95). New York: Bloomsbury Publishing.

Coleman, W. (1982). *Death is a social disease: Public health and political economy in early industrial France.* Madison: University of Wisconsin Press.

Collins, P. H. (1991). Learning from the outsider within: The sociological significance of black feminist thought. In M. M. Fonow and J. A. Cook (Eds.), *Beyond methodology: Feminist scholarship as lived research*. Bloomington: Indiana University Press.

Dalmiya, V. and Alcoff, L. (1993). Are 'old wives' tales' justified? In E. Potter and L. M. Alcoff (Eds.), *Feminist Epistemologies* (pp. 217-245). New York: Routledge.

Davidson, D. (1984). Inquiries into truth and interpretation. Oxford: Clarendon Press.

Davidson, D. (1985). Rational animals. In E. Lepore and B. McLaughlin (Eds.), *Actions and events: Perspectives on the philosophy of Donald Davidson*. New York: Basil-Blackwell.

Davidson, D. (1997). The emergence of thought. *Erkenntnis* 51, 7-17.

Davidson, D. (2005). *Problems of rationality*. Oxford: Clarendon Press.

Davis, K. (1995). Thinking like a chicken: Farm animals and the feminine connection. In J. Donovan and A. Adams (Eds), *Animals and women: Feminist theoretical explorations*. Duke University Press.

Dawkins, M. S. (1993). *Through our eyes only?* Oxford: W.H. Freeman/Spektrum.

Deckha, M. (2012). Toward a postcolonial, posthumanist feminist theory: Centralizing race and culture in

feminist work on nonhuman animals. *Hypatia,* 27(3), 527-545.

DeGrazia, D. (2009). Self awareness in animals. In R. Lurz (Ed.), *The philosophy of animal minds* (pp.201-218). New York: Cambridge University Press.

Delacour, J. (1997). Object perception and recognition: A model for the scientific study of consciousness. *Theory & Psychology*, 7, 257–262.

DeLind, L. (2011). Are local food and the local food movement taking us where we want to go? Or are we hitching our wagons to the wrong stars? *Agriculture and human Values*, 28(2), 273-283.

Delphy, C. (1984). *Close to home: A materialist analysis of women's oppression*. Amherst: University of Massachusetts Press.

DeMello, M. (2011). The present and future of animal domestication. In R. Malamud (Eds.), *A cultural history of animals in the modern age* (pp.67-94). New York: Bloomsbury Publishing.

Dennett, D. (1987). *The intentional stance*. Cambridge: MIT Press.

Dennett, D. (1995). Do animals have beliefs. In H. Roitblat and J.A. Meyer (Eds.), *Comparative approaches to cognitive science*. Cambridge: MIT Press.

Dennett, D. (1996). *Darwin's dangerous idea: Evolutions and meanings of life*. New York: Simon & Shusuter Press.

Derrida, J. (1982). *Margins of philosophy.* Chicago: University of Chicago Press.

Derrida, J. (2001). *On cosmopolitanism and forgiveness*. New York: Routledge.

Derrida, J. (2008). *The animal that therefore I am*. New York: Fordham University Press.

Derrida, J. and E. Roudinesco. (2004). *For what tomorrow...: A dialogue.* Berkley: Stanford University Press.

de-Shalit, A. (2000). *The environment between theory and practice.* Oxford: Oxford University Press.

Diamond, C. (1978). Eating meat and eating people. *Philosophy* 53(206), 465-479.

Diamond, C. (2008). The difficulty of reality and the difficulty of philosophy. In *Philosophy and animal life* (pp. 43-91). New York: Columbia University Press.

Dixon D, J. (1998). My dinner with Derrida, or spatial analysis and poststructuralism do lunch. *Environment and Planning A,* 30, 247–260.

Donovan, J. (2007). Animal rights and feminist theory. In J. Donovan and C. Adams (Eds.), *The feminist care tradition in animal ethics* (pp.7-35). New York: Columbia University Press

Donovan, J. and Adams, C. (2007). Introduction. In J. Donovan and C. Adams (Eds.), *The feminist care tradition in animal ethics* (p.1-21). New York: Columbia University Press.

Douglas, H. (2009). *Science, policy, and the value-free ideal.* Pittsburgh: University of Pittsburgh Press.

Dowie, M. (1996). *Losing ground: American environmentalism at the close of the twentieth century.* Cambridge: MIT Press.

Dretske, F. (1995). *Naturalizing the mind*. Cambridge: MIT Press.

Dummett, M. (1973). *Frege: Philosophy of language*. London: Duckworth.

Edwards, P. (2011). Domesticated animals in Renaissance Europe. In B. Boehrer (Eds.), *A cultural history of animals in the Renaissance* (pp. 95-119). New York: Bloomsbury Publishing.

Elkana, Y. (1982). The myth of simplicity. In G. Holton and Y. Elkana (Eds.), *Albert Einstein: Historical and cultural perspectives.* Princeton: Princeton University Press.

Elwood, R. W. (2011). Pain and suffering in invertebrates? *Institute for Laboratory Animal Research Journal* 52(2), 175-184.

Fairlie, S. (2010). *Meat: A benign extravagance*. White River Junction: Chelsea Green

Fannon, F. (2004). *The wretched of the earth*. New York: Grove Press.

Fausto-Sterling, A. (2001). Gender, race, and nation: The comparative anatomy of 'Hottentot' women in Europe, 1815-1817. In J. Terry and J. Urla (Eds.), *Deviant bodies: Critical perspectives on*

difference in science and popular culture (pp.19-48). Bloomington: Indiana University Press.

Fitzpatrick, S. (2009). The primate mindreading controversy: A case study in simplicity and methodology in animal psychology. In R. Lurz (Eds.), *The Philosophy of Animal Minds* (pp.258-278). New York: Cambridge University Press.

Fodor, J. (1975). *The language of thought*. Cambridge: Harvard University Press.

Fodor, J. (1987). *Psychosemantics*. Cambridge: MIT Press.

Fodor, J., and McLaughlin, B. (1990). Connectionism and the problem of systematicity. *Cognition,* 35, 183-204.

Foucault, M. (1970). *The order of things*. New York: Random House.

Foucault, M. (1973). *The birth of the clinic.* New York: Pantheon Books.

Foucault, M. (1984). Truth and power. In P. Rabinow (Eds.) *The Foucault reader*. New York:

Fouts, R. S. (1973). Capacities for language in the great apes. In *9th International Congress Anthropological and Ethnological Sciences.* Mouton: The Hague.

Fox, W. (2001). *Ethics and the built environment*. London: Routledge.

Fraser, D. (1999). Animal ethics and animal welfare science: Bridging the two cultures. *Applied Animal Behavior Science,* 65(3), 171-189.

Gamber, W. (2005). Away from home: Middle-class boarders in the nineteenth-century city. *Journal of Urban History*, (31), 289-305.

Garreau, J. (2005). *Radical evolution: The promise and peril of enhancing our minds, our bodies—and what it means to be human*. New York: Random House.

Gates, K. (2006). Identifying the 9/11 'faces of terror', *Cultural Studies,* 20, 4-5.

Gennaro, R. J. (2009). Animals, consciousness, and I-thoughts. In R. Lurz (Ed.), *The philosophy of animal minds* (pp.184-201). New York: Cambridge University Press.

Gilman, S. (1993). *Freud, race, and gender.* Princeton: Princeton University Press.

Goodall, J. (1996). *My life with the chimpanzees*. New York: Aladdin Paperbacks.

Goodyear, B. G., D. A. Nicolle, G. K. Humphrey, and R. S. Menon. (2000). fMRI response of early visual areas to perceived contrast in human amblyopia. *Journal of Neurophysiolgy*, 84, 1907–1913.

Grandin, T. (2005). *Animals in translation: Using the mysteries of autism to decode animal behavior.* New York: Bloomsbury Publishing.

Griffin, D. (1976). *The question of animal awareness*. New York: Rockefeller University Press.

Griffin, D. R. (1992). *Animal minds.* Chicago: University of Chicago Press.

Haraway, D. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist Studies* 14(3), 575-599.

Haraway, D. J. (1989). *Primate visions: Gender, race, and nature in the world of modern science*. New York: Routledge.

Haraway, D. J. (1991). A cyborg manifesto: Science, technology, and socialist-feminism in the late twentieth century. In *Simians, cyborgs and women: The reinvention of nature* (pp. 149-181)*.*

Haraway, D. (2001). Situated knowledges: The science question in feminisms and the privilege of partial perspective. In M. Kederman and I. Bartsch (Eds.), *The gender and science reader* (pp. 169-188). New York: Routledge Press.

Haraway, D. (2008). *When species meet*. Minneapolis: University of Minnesota Press.

Harding, S. (1987). Introduction: Is there a feminist method? In S. Harding (Ed.), *Feminism and methodology*. Bloomington: Indiana University Press.

Harding, S. (1993). Rethinking standpoint epistemology: What is 'strong objectivity'. In L. Alcoff and E. Potter (Eds.), *Feminist epistemologies*. New York: Routledge.

Harding, S. (1993). Rethinking standpoint epistemology: What is 'strong objectivity'?. In L. Alcoff & E. Potter (Eds.), *Feminist epistemologies* (pp. 49–82). New York: Routledge.

Harding, S. (2003). Introduction: Standpoint theory as a site of political, philosophic, and scientific debate. In S. Harding (Ed.), *The feminist standpoint theory reader: Intellectual and political controversies* (pp.1-17). New York: Routledge Press.

Hartsock, N. (1990). Foucault on power: a theory for women? In L. Nicholson (Ed.), *Feminism/ postmodernism*. New York: Routledge.

Haslanger, S. (2000). Feminism and metaphysics: Negotiating the natural. In M. Fricker and J. Hornsby (Eds), *The Cambridge companion to feminism in philosophy* (pp. 107-126). Cambridge: Cambridge University Press.

Haslanger, S. and Sveinsdóttir, Á. S. (2011). Feminist metaphysics. *The Stanford Encyclopedia of Philosophy,* Winter 2011 Edition. Retrieved from http://plato.stanford.edu/archives/win2011/entries/feminism-metaphysics.

Hayles, N. K. (1999). *How we became posthuman: Virtual bodies in cybernetics, literature, and informatics.* Chicago: University of Chicago Press.

Hayward, E. (2010). Fingeryeyes: Impressions of cup corals. *Cultural Anthropology,* 25(4), 577-599.

Hegel, G. W. and Wood, A. (1991). *Hegel: Elements of philosophy of right*. Cambridge: Cambridge University Press.

Heidegger, M. (1995). *The fundamental concepts of metaphysics.* Bloomington: Indiana University Press.

Howell, P. (2012). "Between the muzzle and the leash: Dog-walking, discipline, and the modern city. In P. Atkins (Eds.), *Animal cities: Beastly urban histories* (pp.221-243). Burlington: Ashgate Publishing.

Hubbard, R. (1979). Have only men evolved? In R. Hubard, M. S. Henifin, and B. Fried (Eds.), *Women look at biology looking at women: A collection of feminist critiques*. Cambridge: Schenkman.

Hume, D., Selby-Bigge, L. A., and P. H. Nidditch (Eds). (2000). *A treatise of human nature*. Oxford: Oxford University Press.

Hyslop, A. (2014). Other minds. *The Stanford Encyclopedia of Philosophy,* Spring 2016 Edition.

174

Referenced from http://plato.stanford.edu/archives/spr2016/entries/other-minds.

Inwagen, P. (2014). *Metaphysics.* South Bend: University of Notre Dame Press.

Jamieson, D. (2009). What do animals think. In R. Lurz (Eds.), *The philosophy of animal minds* (pp.15-35). New York: Cambridge University Press.

Kalof, L. (2007). *Looking at animals in human history*. London: Reaktion Books.

Katznelson, I. (1991). The centrality of the city in social theory. In I. Rogoff (Ed.), *The divided heritage: Themes and problems in German* modernism (pp.253-264), Cambridge: Cambridge University Press.

Keller, E. F. (1985). *Reflections on gender and science*. New Haven: Yale University Press.

Keller, E. F. (1992). *Secrets of life, secrets of death: Essays on language, gender, and science.* New York: Routledge.

Kennedy, J. (1992). *The new anthropomorphism*. Cambridge: Cambridge University Press.

King, R. J. H. (2000). Environmental ethics and the built environment. *Environmental Ethics* 22, 115–31.

Kirksey, S. E. and S. Helmreich. (2010). The emergence of multispecies ethnography. *Cultural Anthropology,* 25(4), 545-576.

Kosek, J. (2010). The emergence of multispecies ethnography. *Cultural Anthropology,* 25(4), 650-678.

Kourany, J. (2010). *Philosophy of science after feminism.* Oxford: Oxford University Press.

Kuhn, T. S. (1970). *The structure of scientific revolutions*. Chicago: University of Chicago Press.

Lawlor, L. (2007). *This is not sufficient: An essay on animality and human nature in Derrida*. Columbia: Columbia University Press.

Leopold, A. (1948). *A sand county almanac.* Oxford: Oxford University Press.

Levin, J. (2013). Functionalism. *The Stanford Encyclopedia of Philosophy*, Fall 2013 Edition. Retrieved from http://plato.stanford.edu/archives/fall2013/entries/functionalism.

Light, A. (1995). Urban wilderness. In D. Rothenberg (Ed.), *Wild ideas* (pp.195–211). Minneapolis: University of Minnesota Press.

Light, A. (2001). The urban blind spot in environmental ethics. *Environmental Politics* 10, 7–35.

Light, A. (2003). Urban ecological citizenship. *Journal of Social Philosophy* 34 (1), 44–63.

Light, A., & Wellman, C. H. (2003). Introduction: Urban environmental ethics. *Journal of Social Philosophy* 34 (1), 1–5.

Longino, H. (1994). In Search of feminist epistemology. *Monist* 77, 472-485.

Longino, H. (1990). *Science as social knowledge: Values and objectivity in scientific inquiry*. Princeton: Princeton University Press.

Lurz, R. Ed. (2009). The philosophy of animal minds: An introduction. In R. Lurz (Eds.), *The philosophy of animal minds* (pp.1-15). New York: Cambridge University Press.

Martin, E. (1997). The egg and the sperm. In H. Ragone and P. Zavella (Eds.), *Situated lives: Gender and culture in everyday life* (pp.85-98). New York: Routledge.

Maturana, H. R., and F. J. Varela. (1992). *The tree of knowledge: roots of human understanding. Boston: Shambhala.*

McAninch, A., Grant, G., and Allen, C. (2009). Animal communication and neo-expressivism. In R. Lurz (Ed.), *The philosophy of animal minds* (pp.128-145). New York: Cambridge University Press.

McNeur, C. (2011). The 'swinish multitude': Controversies over hogs in antebellum New York city. *Journal of Urban History,* 37, 639- 660.

Merchant, C. (1993). *Radical ecology*. New York: Routledge.

Michelfelder, D. (2003). Valuing wildlife populations in urban environments. *Journal of Social Philosophy*, Vol. 34 (1), 79-90.

Michelfelder, P. D. (2003). Valuing wildlife populations in urban environments. *Journal of Social Philosophy*, 34(1), 79-90.

Mills, C. (2005). Ideal theory as ideology. *Hypatia* 20(3), 165-184.

Mizelle, B. (2011). *Pig*. London: Reaktion Books.

Morgan, C. L. (1903). *An introduction to comparative psychology*. London: Walter Scott.

Moulton, J. (1980). Dualism in philosophy. *Teaching Philosophy* 3(4), 419-433.

Nagel, T. (1974). What is it like to be a bat? *Philosophy Review,* 85, 435-450.

Natsoulas, T. (1978). Residual subjectivity. *American Psychology*, 33, 269–283.

Nayar, P. K. (2014). *Posthumanism*. Cambridge: Polity Press.

Nelkin, N. (1986). Pains and pain sensations. *Journal of Philosophy* 83, 129-148.
     New York: Routledge.

Noddings, N. (1984). *Caring: A feminine approach to ethics and moral education*. Berkeley: University of California Press.

Noll, S. (2014). Liberalism and the two directions of the local food movement. *Journal of Agricultural and Environmental Ethics* 27(2), 211-224.

Norton, B. G. (2005). *Sustainability: A philosophy of adaptive ecosystem management.* Chicago: University of Chicago Press.

Nussbaum, M. C. (2007). *Frontiers of justice: Disability, nationality, species membership.* Cambridge: Belknap Press.

Oliver, K. (2009). *Animal lessons: How they teach us to be human.* New York: Columbia University Press.

Palmer, C. (2003). Placing animals in urban environmental ethics. *Journal of Social Philosophy*, 34(1), 64-78.

Palmer, C. (2010). *Animal ethics in context*. New York: Columbia University Press.

Palmer, C. (2011). The moral relevance of the distinction between domesticated and wild animals. In T. Beauchamp and R. G. Frey (Eds.), *The Oxford handbook of animal ethics*. Oxford: Oxford University Press.

Palmer, C. and P. Sandoe. (2011). Animal ethics. In M. Appleby, B. Hughes, J. Mench, and Ollson, A. (Eds.), *Animal welfare* (p.1-12). Wallingford: CABI International.

Pascua, E. (2011). Domestication. In B. Resl (Ed.), *A cultural history of animals in the medieval age (pp. 81-102)*. New York: Bloomsbury Publishing.

Pepperberg, I. and Spencer K. L. (2000). Possible levels of animal consciousness with reference to grey parrots (Psittacus erithacus). *American Zoologist* 40(6), 893-901.

Pepperberg, I. M. (1994). Evidence for Numerical Competence in an African Grey Parrot (Psittacus *erithacus). Comparative Psychology* 108: 36–44.

Perfecto, I. (2009). *Nature's matrix: Linking agriculture, conservation, & food sovereignty.* New York: Routledge.

Petrus, K. and Wild, M. (2014). *Animal minds and animal ethics: Connecting two separate fields.* Bielefeld: Transcript-Verlag.

Pimbert, M. (2008). *Towards food sovereignty: Reclaiming autonomous food systems.* London: The International Institute for Environment and Development.

Plumwood, V. (2001). *Environmental culture: The ecological crisis of reason.* New York: Routledge Press.

Priest, G. (2006). What is philosophy? *Philosophy* 81(2), 189-207.

Quine, W.V. (1992). *Pursuit of truth*. Cambridge: Harvard University Press.

Raffaelle, R., Robinson, W., and Selinger, E. (2010). *Sustainability: 5 questions*. Milton Keynes:

Automatic Press.

Rees, W. E. (1999). Life in the lap of luxury as ecosystems collapse. *Chronicle of Higher Education*, 30(1), 1.

Rees, W., E. and Wackernagel, M. (1995). *Our ecological footprint.* New York: New Society.

Regan, T. (2004). *The case for animal rights.* Oakland: University of California Press.

Richardson, S. (2010). Feminist philosophy of science: History, contributions, and challenges. *Synthese* 177, 337-362.

Ricoeur, P. and Blamey, K. (1995). *Oneself as another*. Chicago: University of Chicago Press.

Rollin, B. (1995). *Farm animal welfare: Social, bioethical, and research Issues*. Boise: Iowa State University.

Rorty, R. (1978). Philosophy as a kind of writing: An essay on Derrida. *New Literary History*, 10(1), 141-160.

Rose, M. (2003). Reembracing metaphysics. *Environment and Planning* A 36, 461-468.

Rosser, S. (1990). *Female-friendly science: Applying women's studies methods and theories to attract students.* New York: Pergamon.

Ruse, M. (1999). *Mystery of mysteries: Is evolution a social construction?* Cambridge: Harvard University Press.

Saidel, E. (1998). Beliefs, desires, and the ability to learn. *American Philosophical Quarterly* 35, 21-37.

Savage-Rumbaugh, S. and Fields, F. (2000). Ape consciousness: A perspective informed by language and culture. *American Zoologist* 40 (6), 910-921.

Scott, J. (1986). Gender: A useful category of historical analysis. *American Historical Review* 9, 1053–1075.

Searle, J. R. (1998). How to study consciousness scientifically. *Philosophy of Sociology, 353,*121-130.

Shapin, S. and Schaffer, S. (1985). *Leviathan and the air-pump: Hobbes, Boyle, and the experimental life.* Princeton: Princeton University Press.

Sherwin, C. M. (2001). Can invertebrates suffer? Or how robust is argument by analogy? *Animal Welfare* 10,103-118.

Shiva, V. (2000). *Stolen harvest: The hijacking of the global food supply.* Cambridge: South End Press.

Singer, P. (2009). *Animal liberation: The definitive classic of the animal movement*. New York: Harper Perennial Modern Classics.

Smart, J. J. (1959). Sensations and brain processes. *Philosophical Review* 68, 141–156.

Smith, D. E. (1974). Women's perspective as a radical critique of sociology. *Sociological Inquiry* 44(1): 7-13.

Sober, E. (2005). Comparative psychology meets evolutionary biology: Morgan's canon and cladistic parsimony. In L. Daston and G. Mitman (Eds.), *Thinking with animals: New perspectives on anthropomorphism* (pp.85-99). New York: Columbia University Press.

Sosa, E., Kim, J., Fantl, J., and M. McGrath (Eds). (2008). *Epistemology*. Malden: Blackwell Publishing.

Spivak, G. (1991). Remembering the limits: Difference, identity, and practice. In P. Osborne (Eds.), *Socialism and the limits of liberalism* (pp.227-239). London: Verso.

Stallybrass, P. and White, A. (1986). *The politics and poetics of transgression*. Ithaca: Cornell University Press.

Stalnaker, R. (1999). *Contexts and content*. Oxford: Oxford University Press.

Steinhoff, A. (2011). Nineteenth-century urbanization as sacred process: Insights from German Strasbourg. *Journal of Urban History*, (37), 828- 841.

Stitch, S. (1989). *From folk psychology to cognitive science: The case against belief*. Cambridge: MIT Press.

Tarr, J. (1999). A note on the horse as an urban power source. *Journal of Urban History,* 24, 434-448.

Taylor, P. (1986). *Respect for nature: A theory of environmental ethics.* Princeton: Princeton University Press Inc.

Tetzlaff, M. and Rey, G. (2009). Systematicity and intentional realism in honeybee navigation. In R. Lurz (Ed.), *The philosophy of animal minds* (pp.72-89). New York: Cambridge University Press.

Thompson, P. B. (1994). *The spirit of the soil: Agriculture and environmental ethics.* New York: Routledge.

Thompson, P. B. (2007). Welfare as an ethical issue: Are blind chickens the answer? In R. Reynnells (Ed.), *Bioethics symposium: Proactive approaches to controversial welfare and ethical concerns in poultry science.* Atlanta: USDA/CSREES/PAS

Thompson, P., and Noll, S. (2015). Agriculture ethics. In J. B. Holbrook and C. Mitcham (Eds), *Ethics, science, technology, and engineering: An international resource*, 2nd Edition (p.35-42). Independence: Cengage Press.

Tye, M. (1997). The problem of simple minds: Is there anything it is like to be a honey bee? *Philosophical Studies* 88, 289-317.

Uexkull, J. (2010). *A foray into the worlds of animals and humans: With a theory of meaning.* Minneapolis: University of Minnesota Press. University Press.

Van Dooren, T. (2014). *Flight ways: Life and loss at the edge of extinction.* New York: Columbia University Press.

Varela, F. J., Thompson, E., and Rosch, E. (1991). *The embodied mind: Cognitive science and human experience.* Cambridge: MIT Press.

Warnke, G. (2008). *After identity: Rethinking race, sex, and gender*. Cambridge: Cambridge University Press.

Warren, K. (2000). *Ecofeminist philosophy: A western perspective on what it is and why it matters.* Lanham: Rowman & Littlefield Publishers.

Wolfe, C. (1995). In search of post-humanist theory: The second-order cybernetics of Maturana and Varela. *Cultural Critique* 30, 33-70.

Wolfe, C. (2003). *Zoontologies: The question of the animal*. Minneapolis: University of Minnesota Press.

Wolfe, C. (2008). Introduction: exposures. In C. Wolfe (Eds.), *Philosophy and animal life* (pp.1-43). New York: Columbia University Press.

Wolfe, C. (2010). *What is Posthumanism?* Minneapolis: University of Minnesota Press.

Worley, S. (1995). Feminism, objectivity, and analytic philosophy. *Hypatia* 10(3), 138-156.

Zach, N. (2002). *Philosophy of science and race*. New York: Routledge.

Zagzebski, L. T. (1996). *The virtues of the mind: An inquiry into the nature of virtue and the ethical foundations of knowledge.* Cambridge: Cambridge University Press.