NEGOTIATING ENVIRONMENTAL RELATIONSHIPS:

WHY LANGUAGE MATTERS TO ENVIRONMENTAL PHILOSOPHY

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The medium of language is important to environmental philosophy, and more specifically, to the establishment and understanding of environmental relationships. The differences between animal and human language point to our unique semantic range, which results from our neuro-linguistic process of signification. An examination of the linguistic implications of the problem of nature and the tenets of semiotics challenges the idea of a clean word to world fit. Because signs are the medium in which meaning is constructed, questions about nature must in part be questions of language. Environmental discourse itself is bound up in sociolinguistic productions and we must attend not only to what language says, but to what it does. NEPA functions as a speech act that systematically invokes an ethical framework by which it colonizes the domain of valuation and fails to provide a genuine opportunity for non-commodity values to be expressed.

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CHAPTER I

INTRODUCTION

One may recognize striking similarities between the title of this work and the title of Ian Hacking's 1975 publication, *Why Does Language Matter to Philosophy?*[1] In it, Hacking offers a broad survey of the history of philosophy and the way language has been important to the development and refinement of the major philosophical themes up through the twentieth century. Indeed, most influential philosophical movements of the century have given language a central place. These movements have not only been concerned with language as one of the problems of philosophy, but have also been linguistic in that philosophical understanding is essentially bound up with the understanding of the medium of language.[2] The linguistic turn, as it has been called by yet another philosopher, this time Richard Rorty, suggests that through an appeal to language, discourse, or forms of linguistic representation, philosophy epitomizes the furthest points that one can reach in its quest for truth and knowledge. Those interested, however, need not confine themselves to Hacking or Rorty to quickly discover that language has been a central area of concern in twentieth-century philosophy. It is curious then that more environmental philosophers have not also adopted this tack in pursuing an understanding of the philosophical aspects of environmental problems.

To be fair, occasional works concerning language have appeared throughout environmental philosophy's short, yet prolific history. Early in the movement Arne Naess in *Ecology, Community and Lifestyle,* warns of language's tendency to narrow the ontological range of ecological relational thinking. He writes, "A word only takes life through its meanings and

[1] Ian Hacking, *Why Does Language Matter to Philosophy?* (Cambridge: Cambridge University Press, 1974).
[2] Charles Taylor, *Human Agency and Language* (Cambridge: Cambridge University Press, 1985), p. 215.

compatible interpretations."[3] Naess's point is that dominant epistemological frameworks tend to narrow and restrict the range of semantic possibilities when attempting to articulate non-traditional theories of value. While Naess has elsewhere made notable contributions in the area of semantics, his linguistic interests in formulating his "ecosophy" lie mainly within the communicative aspects of language. More recently in David Abram's, *The Spell of the Sensuous*, he investigates the human transition from orality to literacy and its effects on humanity. Abram argues that over time humans have changed the way they represent the environment and that our linguistic representations can be dangerous, especially when we are inattentive to their perceptual side effects. He suggests that there has been a perceptual type of "forgetting" caused as we have moved from ecologically connected meanings and oral forms of experience to an increased tendency toward abstract linguistic representations of nature.[4] While other areas of philosophy have increasingly found language inhabiting central parts of their debates, its presence in environmental philosophy has been, at best, sporadic. As expected, exceptions have appeared during the period between Naess and Abram, but there has been no cousin of the so-called "linguistic turn" within environmental philosophy.[5]

It has not been uncommon for the focus of environmental philosophy to gradually shift as the field has evolved. In fact, language has over the course of the writing of this monograph moved from the margins to having a regular place among academic environmental discourse as well as being an increasing concern within the popular environmental movement itself.[6] High

[3] Arne Naess, *Ecology, Community, and Lifestyle: Outline of an Ecosophy* trans. and ed. David Rothenberg (New York: Cambridge University Press, 1989), p. 6.

[4] David Abram, *The Spell of the Sensuous: Perception and Language in A More-Than-Human-World* (New York: Vintage Books, 1996).

[5] See Saroj Chawla, "Linguistic and Philosophical Roots of Our Environmental Crisis," *Environmental Ethics* 13 (1991): 253-262.

[6] See Steven Vogel, "Environmental Philosophy after the End of Nature," *Environmental Ethics* 24 (2002): 23-39; Anna Peterson, "Environmental Ethics and the Social Construction of Nature," *Environmental Ethics* 21 (1999): 339-357; Éric Darier, ed., *Discourses of the Environment* (Malden: Blackwell Publishers, 1999); William

stakes in the outcomes of environmental controversies require new approaches, and as such, rhetorical strategies amid swirling politics have proven to be crucial in successfully articulating environmental points of view. Academicians have been quick to pick up on how environmental rhetoric has significant and traceable axiological roots important to both the immediate development of those values, and for informing a theory capable of sustaining long-term environmental policies.[7] In other writings, terms such as *nature* and *wilderness* had until recently escaped scrutiny and had passed as epistemological footholds supporting theories of environmental value.[8] Some now advocate the abandonment of the concept *nature*, or at the very least a critical reflection on the historical roots and social context of the term.[9] Others contend that without the widespread use of such concepts as *nature* we will lose our footing and slide irreversibly down the slippery slope of subjectivism where nothing will be distinguishable from simulacra or spared from the demands of economic expansion. In still other works, language has moved from a peripheral concern to center stage. For example, William Cronon questions the sociolinguistic implications that follow from the reliance on the concept of *nature*, when he writes, "The fact that it lies forever beyond the borders of our linguistic universe—that it does not talk back to us in a language we can easily understand—permits us to pretend that we know what it really is and to imagine we can capture its meaning with this very problematic word

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Cronon, ed., *Uncommon Ground: Rethinking the Human Place in Nature* (W. W. Norton & Company: New York, 1995); Will Wright, *Wild Knowledge: Science, Language, and Social Life in a Fragile Environment* (University of Minnesota Press: Minneapolis, 1992); Jack Turner, *The Abstract Wild* (University of Arizona Press: Tucson, 1996); and the impressively subtle and eloquent analysis of the language of the environment, Max Oelschlaeger, *The Idea of Wilderness: From Prehistory to the Age of Ecology* (Yale University Press: New Haven, 1991).

[7] See Bruner, Michael, and Max Oelschlaeger, "Rhetoric, Environmentalism, and Environmental Ethics," *Environmental Ethics* 16 (1994): 377-396.

[8] An early example is Max Oelschlaeger, *The Idea of Wilderness: From Prehistory to the Age of Ecology* (Yale University Press: New Haven, 1991); and a later example is William Cronon, ed., *Uncommon Ground: Rethinking the Human Place in Nature* (W.W. Norton & Company: New York, 1996).

[9] See Vogel, "Environmental Philosophy after the End of Nature," pp. 23-39; also see also *Uncommon Ground: Rethinking the Human Place in Nature,* ed. William Cronon (W.W. Norton & Company: New York, 1996).

'nature.'"[10] In a different type of critique, Jack Turner critically assesses the language of economics and its effort to translate "the life of the Earth" into abstract economic terms such as "benefits, resources, self-interest, models, and budgets."[11] These efforts combined with Naess, Abram, and others are important not only in a substantive sense, they are valuable in addressing the ever-challenging demands confronting environmental philosophy. One aspect they all share, however, is of considerable concern and is the impetus behind the first chapter of this paper. My concern is that while environmental philosophers agree that language is increasingly important for one reason or another, they establish no reasoned argument from which to base their view. Let me clarify.

Most environmental philosophers approach the problem of language from the point of view that language is a critical element because practical environmental consequences are closely tied to rhetorical inputs. After all, language is the only way we can articulate thoughts, concepts, or ideas, and so rhetorically, language becomes critical in creating compelling arguments intended to educate or sway opinions. In a similar but slightly different vein, language is heralded as significant because it shapes the conceptual frameworks that affect the way we construct values. The problem is that positions such as these typically trade on two rather trivial and misinformed aspects of language: (1) language is the only way we can articulate thoughts, concepts, or ideas; and (2) we can indeed have concepts which are independent of language, but are unable to be articulated without filtering, processing, and expressing them via language.[12] It's a type of "Catch-22" situation that points out how language is always involved in what can be conveyed. According to this view, language is a type of amorphous interface between the knowing self and the world, and accordingly we employ language in both the process of understanding the world

[10] Cronon, "Introduction: In Search of Nature," in *Uncommon Ground*, p. 52.
[11] Jack Turner, *The Abstract Wild* (University of Arizona Press: Tucson, 1996), pp 62-63.
[12] Art is, of course, a notable exception to language having a monopoly on expressions.

(hearing and reading) and in the articulation of that understanding (speaking and writing). The common assumption underlying this view is that language is cognitively passive; that is, language is simply a cognitive ability to translate what is "out there" into sensible concepts represented in words. Based on this theory of language, what is needed is a better translation process to better grasp the intricacies of environmental dilemmas, one that will yield a more realistic representation of the world. What we need is a better match between words and the world where our reference more accurately represents the referent. Linguistic analysis of this kind employs a particular theory of language as it pertains to the problem of meaning, namely, the referential theory. The referential theory considers the meaning of a word to be its referent, the object to which it refers. At one time, the referential theory was considered a tenable argument but has long since been considered gravely inadequate for capturing the complexities and extent of language use. If a referential theory of language is what grounds language-related environmental arguments, those arguments would be vulnerable for the same reason the theory fails. If another theory underpins language's significance in environmental concerns, one wonders what sort of theory environmental philosophers envision when they construct their arguments.

When language is brought under scrutiny without a clear understanding or presentation of how it functions behaviorally or cognitively, it loses instructive momentum. How are we to proceed, for example, in dealing with Turner's quandary? Is his recommendation to "Just say no" to economic language sufficient to resolve this problem?[13] Is it really this easy? I tend to believe that language is much more complex than this characterization and that Turner is well aware of this fact, but for reasons unknown, he gives no constructive criticism in regards to this problem of language. But to be fair, Turner is not alone in avoiding an explanation of language. When

[13] Turner, *The Abstract Wild*, p. 62.

Max Oelschlaeger suggests that "to be human is to be linguistically and historically enframed," he apparently recognizes the linguistic counterpart of the postmodern position of social constructivism: language functions as a cultural relay, articulating the historically changing ideas of what counts as reality, nature, and wilderness.[14] Understandably, Oelschlaeger is working from a historical perspective rather than a linguistic one, but if we are "enframed" as Oelschlaeger argues, it remains unclear as to what extent this is the case and how that will affect the prospect for change. Furthermore, ambiguities such as these are perplexing as far as what sorts of strategies one might employ in the telling new stories as Oelschlaeger recommends. Will any story satisfy the social requirements for change? So while it seems that language is indeed a critical component and worthy of examination, more often than not, contemporary environmental philosophers tend to gloss over any accompanying theoretical stance as to how or why language, as a component of cognition, is significant.[15] Questions arise not only about how language affects or informs, but also how it functions mechanistically in the process of forming values in the first place. What seems lacking in this regard is an inquiry into the cause rather than the effects, if one can in fact parse the subject of language in such a way.

It may turn out to be the case that a full-fledged theory of language is impossible, unnecessary, or perhaps even unwise. But with such widespread ambiguities at hand, I propose that there are critical aspects of language and our linguistic abilities that need a more detailed examination prior to accepting any simplistic or common-sense solutions. What I am proposing is a better understanding of the medium of language as it relates to environmental philosophy

[14] Oelschlaeger, *The Idea of Wilderness*, p. ix.

[15] While the following texts were intensely valuable in the formulation of many of the ideas I presented here, Steven Vogel, *Against Nature: The Concept of Nature in Critical Theory* (New York: State University of New York Press, 1996), Neil Evernden, *The Social Creation of Nature* (Baltimore: Johns Hopkins University Press, 1992), and Will Wright, *Wild Knowledge: Science, Language, and Social Life in a Fragile Environment* (Minneapolis: University of Minnesota Press, 1992) all start off with this fundamental assumption and rarely reflect on how it is that language is an important contributing factor in establishing notions of value.

and more specifically, how it relates to the way we establish environmental relationships. It is important, therefore, to back up to where linguistic assumption takes off and to demonstrate more fully how language is an important area of analysis for environmental philosophy in its own right.

In the next chapter, chapter two, I set out to establish strong reasons to believe that we are linguistically unique in relation to our cognition. In other words, our cognition, our mental life is uniquely bound up with and connected with language in such a way that it presents us with particular representational abilities that sets us apart from other species. If language and thought do have a fundamental nexus in our cognition, as I argue, then language does more than serve as a passive communication device transmitting fully formed thoughts from thinkers to the hearers. Instead, language participates, at some level, in the cognitive formation of certain types of thoughts in addition to the act of communicating those thoughts. The language that we use, the meanings we form in language, and the frameworks we employ in the articulation of environmental values are the result of having a linguistically dependent cognition. In opposing a passive view of language in the analytic tradition where the truth value of propositions depend on the degree to which they accurately reflect the state of affairs in the world, I argue instead that human language enables us with a cognitive capacity rendering language decisively active—active in a way that the mind is always at work linguistically representing phenomena in order to understand experience. Such linguistic activity, I propose, seriously undermines the common conception that language is nothing more than a representation of reality, without any reality of its own. This sense of linguistic agency therefore also suggests that language for humans is in some sense uniquely active as a force behind the construction of meaning. If and only if we are cognitively linguistic does any analysis of environmental discourse have any bearing on

environmental affairs. Linguistic analysis of environmental problems only takes on as much significance as can be shown that we are linguistically cognitive.

As a step toward establishing such a view of linguistic agency, I examine the seemingly simple process of translating the world into words. The ability to refer has long been considered a pivotal difference between human language and animal communication systems. But upon critical reflection, problems with animal reference and intentionality are often based upon decisively human biases. This is not to say that animal language is equal to human language; nor do I argue that human language is a superior system compared alongside animal communication. My point is rather to show, via the comparison, how human language affords us with a much richer and more elaborate system of reference that, in the end, does indeed set it apart from animal communication systems.

The third chapter builds on the notion of linguistic agency and looks at how the discourse surrounding the problem of *nature* has become divided along epistemological lines. As such, the debate has all but forfeited the idea that any subtle conceptual possibilities between epistemological relativism, by which ethics is untenable, and epistemological realism which eliminates the human element in translating the materiality of the world into theories and descriptions about the world. Language and the process of semiotics (sign productions) have all but been forgotten as the centerpiece behind postmodern constructivist views, and as such, their positions have been largely misunderstood when employing less-than classical approaches.[16] This is not to say, however, that the dualistic tendencies typified in the rhetorical stance of

[16] See Max Oelschlaeger, "On The Conflation of Humans and Nature," *Environmental Ethics* 21 (1999): 223-224, for a recent example of academic writings concerning "what is natural?" Unfortunately, Oelschlaeger's criticism of Callicott passes too quickly over how the faculty of language plays a pivotal role from which such concepts as *nature* are representationally understood in the first place. See also Kate Soper, *What is Nature? Culture, Politics, and the Nonhuman* (Oxford: Blackwell, 1995), who again fails to see the nuanced distinction between the idea of nature as an idealist's text—it's nature because we call it nature and the socially discursive cultural project of "nature."

Holmes Rolston, III are any better at effectively grappling with the underlying linguistic elements latent in ideas such as *nature*. Nonetheless, Rolston's position is instructive as an example of an often-invoked criticism of postmodern environmental approaches. To show how a richer understanding of the problem of nature can be gained, and many misconceptions avoided, I juxtapose an exegesis of semiotics to Rolston's position in his article "Nature for Real: Is Nature a Social Construct?" I argue that a rigorous exposition of semiotics, both in terms of the function of signification and as a tool of philosophical analysis, fills in the epistemological gaps found in subject/object dichotomies, thereby encouraging a middle ground where nature can engender a wide range of environmental responsibility.

In the fourth chapter, I draw upon contemporary theories of linguistic agency and performativity as they relate specifically to negotiating environmental relationships and policy. By demonstrating that environmental relationships mark the discursive performativity of language within which they are constituted, we can also point to the social values that inform those conceptual frameworks. Specifically, I look at the National Environmental Policy Act (NEPA) and the traditional utilitarian frameworks it uses to arrive at notions of environmental value. I argue that if our sociolinguistic patterns of value were freed from the language of economics, the identity of environmental value could be legitimately articulated in a variety of ways, including deontological expressions of value.

The sociolinguistic domains, and the cognitive system of symbolic representation, in a mutually reinforcing process, provide formidable problems for environmental behavior and policy analysts as they tend to set out in advance the criteria by which the relations between the subjects and the environment are formed. However, if it is the case that the subjects and the environment are produced through a set of linguistic foreclosures, then those founding

limitations are necessarily never permanent nor monolithic. Just as linguistic agency is vulnerable to support particular socio-political spheres, the performativity of language can also work precisely in counter-hegemonic ways.

An inquiry into language as it relates to the environment, one may argue, is headed in the wrong direction. There are concerns among various environmental academics that philosophy ought to do whatever it takes to become more accessible in order to maximize its influence in environmental matters.[17] The goal of increased practicality is often believed to come about by being less theoretical, or at least appearing less "philosophic." This project, would then not appear to be a much-needed practical tonic for contemporary environmental concerns. I argue just the opposite: philosophy—as well as language—is intrinsically practical; and environmental problems are, in some ways, problems of language. While it is true that one can study language in itself, it is likely that one will also arrive at the problems of language via the implications that arise from its practical application. Philosophy of language need not be an either/or proposition—an analysis of language itself, or an account of a linguistic practice or experience.

Language in a trivial sense is, of course, the medium in which environmental discourse moves, and therefore, worthy of analysis based on that aspect alone. But before such rich discursive systems are even possible—rhetorically, conceptually, or in any other way—language must be ontologically prior to those associated concepts, ideas, or descriptions for them to be represented in the first place. Thus, an important step in explaining why language matters to environmental philosophy will occur by gaining a clearer understanding of how and why language is possible at all.

My goal in pursuing a deeper analysis of language as it relates to the problem of negotiating environmental relationships is two-fold: first, it explores at a fundamental human

[17] David Johns, "The Ir/relevance of Environmental Ethics," *Environmental Ethics* 25 (2003): 223-224.

level the roots of environmental problems and blends them with the important philosophical contributions of linguists and philosophers of language. Second, it continues to pivot the landmark of environmental philosophical inquiry. But rather than interrogating various aspects of the nonhuman for the purposes of establishing moral qualification, it is a critical interrogation of the way in which environmental representations exist in the first place, and as such, investigates the part of ourselves that mediates between us and the environment. The medium of language is a complex form of life that entails an inherent agency for humans. This agency renders too simplistic the notion that linguistic aspects of environmental problems are only the background against which we decide how to act. Language is much more than the means by which environmental problems are communicated. Environmental ethics ought to, at a fundamental level, concern itself precisely with the study of this in-between space in dealing with the problems that arise when we set out to negotiate our place in the environment.

CHAPTER II

LANGUAGE, THOUGHT, AND LINGUISTIC AGENCY

> The price we pay for this is that our symbolically mediated actions can often be in conflict with motivations to act that arise from more concrete and immediate biological sources.
>
> —Terrence W. Deacon, *The Symbolic Species*[18]

Introduction

Within the studies concerning the philosophical aspects of environmental problems, language, thus far, has been overlooked. In contrast, and in response, this section in a very general sense examines the intersection where language and the environment meet. Looking at the early stages of the academic field may help explain why philosophers have been reluctant to incorporate the problems of language into their analysis. In the early years, academic philosophers produced a variety of ethical positions and theories attempting to derive morally justifiable reasons for establishing adequate environmental policies. In so doing, the field's seminal minds indicated that the philosophical problems were primarily problems of ethics. Brian G. Norton claims that the first twenty years of environmental philosophy was dominated by environmental ethics and questions of axiology where "a small set of coherent principles [were sought] to guide environmental action."[19] Much of the work to date has been committed to discussing opposing conceptual issues such as intrinsic versus instrumental value, anthropocentric versus biocentrism, monism versus pluralism, and so on.[20] Additionally, as J.

[18] Terrence W. Deacon, *The Symbolic Species: The Co-evolution of Language and the Brain* (New York: W.W. Norton & Company, 1997), p. 434.

[19] Bryan G. Norton, "Integration or Reduction: Two approaches to environmental values" in *Environmental Pragmatism*, ed. Andrew Light and Eric Katz (New York: Routledge Press, 1996), p. 105.

[20] Ben A Minteer and Robert E. Manning, "Pragmatism in Environmental Ethics: Democracy, Pluralism, and the Management of Nature," *Environmental Ethics* 21 (1999): 192.

Baird Callicott notes, the embryonic stages of environmental philosophy were primarily cast in neo-Kantian, Leopoldian, or self-realization theories.[21]

Nascent environmental philosophy indicated the need to radically alter the exclusively inter-human tradition of Western ethics to include nonhumans as being morally considerable. The ethical question "how ought one to act in relation to others?" was thus cast in an environmentally progressive light. The "others" now also included the more-than-human.[22] Despite the deliberate expansion of what counted morally, the direction of inquiry continued to be projected outward. Questions were often "What specific qualities among natural organisms, entities, or systems allow them to be given moral consideration, and why?" Other questions centered around whether nature had value independent of its usefulness, and if so, how might one determine and go about defending such value? So for better or worse, the initial framework of inquiry within environmental philosophy determined the general discursive direction for the following several years. Environmental *ethics* became synonymous with, and dominated the discipline of, environmental *philosophy*.

When there were common themes, a resounding philosophical chorus lamented the history of human arrogance and domination over nature, and resonated loudly with a Leopoldian tenor that placed humans in the biotic community as "plain member and citizen of it."[23] Rarely did contemporary philosophical positions stray far from this position. It was generally agreed upon, if not also tacitly assumed as a point of departure for inquiry into other environmentally-related areas.

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[21] J. Baird Callicott gives an excellent genealogy of the development of "neo-Kantian," "Leopoldian," and "Self-realized" theories in his article, "The Case against Moral Pluralism," *Environmental Ethics* 12 (1990): 101-102.

[22] The term *more-than-human* was first used, as far as I can tell, by David Abram, *The Spell of the Sensuous* (New York: Vintage Books, 1996).

[23] Aldo Leopold, *A Sand County Almanac: and Sketches Here and There* (New York: Oxford University Press, 1949), p. 204.

This is not to say, however, that the field of environmental ethics was hostile to any contrary position—there were notable diverging movements.[24] Nevertheless, a philosophical route had been staked out and was fast becoming a well-trodden path, to the extent that if an ecophilosopher did not follow the plain member and citizen route, they would most likely need to first develop a venerable defense, prior to establishing any theoretical point of view. Doing so would certainly be a problem for a philosopher who took, as their starting point, the idea that particular human traits do indeed distinguish the species and thus, are not simply plain members and citizens on all accounts. To posit, amid the strenuously "non-anthropocentric" philosophical climate, that humans are somehow linguistically unique might be misunderstood as implying a notion of human superiority. This claim, I contend, while understandable, is nonetheless misplaced here.

Philosophers, environmental or otherwise, have been rightly critical of claims that smack of notions of superiority. Historically, claims of superiority have been used to justify everything from paternalism to outright abuse and oppression against humans and nonhumans alike. In the seventeenth and eighteenth centuries, in response to the Cartesian system, it made sense both philosophically and theologically to wonder whether animals had minds. If, as Descartes declared, there were two kinds of substances in the universe, mental substance whose essence was thinking or consciousness, and physical substance whose essence was extension, then the questions become: which of the animate extended substances had minds? Which of the living substances contained consciousness? Cartesian theory had the implication that consciousness is indestructible. Any mental substance is indivisible and so it lasts eternally. But if animals have

[24] Ecofeminists and social ecologists, in their various critiques of deep ecology during the 70s, mark forceful counterexamples to my contention that discourse within environmental ethics was dominated by the singular philosophical move of expanding the criteria of moral considerability. However, none of these nascent movements investigated the uniquely human trait of language as an underlying common factor linking both institutional and ethical structures.

consciousness, then it follows that they have immortal souls, and it follows further that the afterlife will be intolerably overpopulated. Worse yet, if consciousness extended very far down the phylogenetic ladder, then it might turn out that some of heaven's population will include some very unsavory creatures, giving heaven a not-so-heaven-like appearance. This consequence is an unwelcome theological outcome of what seemed a plausible philosophical doctrine.

The Cartesian solution to these undesirable consequences was simply to assert that animals do not have minds: animal are unconscious automatons and though we feel sympathy for the dog who howls in apparent pain, our sympathy is misplaced just as it would be if we sympathized for a machine that rattles and whines just before its gears finally give way and it breaks down. Ridiculous as this view seems to us now, I believe it is important to understand that at one time it was the plausible consequence given the Cartesian dualistic system and its refusal to accept that animals do have certain sorts of mental phenomena. The Cartesians also thought that language was the crucial feature that distinguishes humans from animals. But they thought the significance of language was epistemic: the possession of language was a sure sign that humans are conscious and its absence a sure sign that animals are not conscious.

While very few people today would be willing to argue that animals lack consciousness altogether, it would be reasonable to expect a certain amount of moral fallout to occur for animals following the cultural adoption of such a dualistic philosophy. Although Descartes' mental dualism is, in the end, an unworkable thesis, I expand and defend certain parts of his premise that language is a differentiating feature between humans and animals. Unlike Descartes, however, I offer a more nuanced understanding of language and what it means for us. The ease with which language functions in our day-to-day lives seldom gives one reason to reflect upon it. It is only when compared against examples of other forms of animal communication that we

come to understand the nature of language and the associated cognitive primacy and influence upon our species. My purpose in comparing animal communication with human language is not to demonstrate how one system is superior over another, nor to valorize the complexity of one system rather than the other. Animal behavior, whenever it is evaluated, ought to be understood on its own terms as evolutionary traits that enable animals to survive and thrive in the world. If what only counts as language is what a typical adult human is capable of producing then, by definition, animals do not and never will have language. But, if language is at least in part the ability to communicate in order to fulfill a particular species' needs and desires, then there are no doubt countless examples of language to be found across the spectrum of species. Accordingly, any moral fallout for animals not satisfying the human standard of language is human chauvinism pure and simple. As I argue in more detail below, while there are some standards of cognition that are language-dependent and that must be met to qualify as a moral agent, those standards ought not to be confused with the standards that qualify one for moral considerability.

Although the results of this comparison eventually suggest that, indeed, the cognitive faculties responsible for human language are different from other species, it does not give reason to reinscribe a Cartesian hierarchy between humans and nonhumans. A comparison of this type is simply an attempt to sketch how language, which results from particular cognitive infrastructures, is precisely what provides us with a unique representational system. Thus, any accompanying notion of human superiority is an erroneous jump in logic that I explicitly reject. When we discover that we are little more responsible for language than we are for walking upright, we quickly see that language cannot be considered to be a kind of accomplishment.

The resulting comparison demonstrates that humans and animals do indeed share particular aspects of language, such as reference, use of symbols, word ordering, and so on, but also that

there also is an important difference: the degree and extent to which our linguistic capabilities can represent not only such things as objects, but also concepts, propositions, and corresponding states of the world. I argue that the extent to which language is a function of our expressive cognitive system is critical to the way we go about establishing environmental relationships. A clearer understanding of language, then, may prove to be a valuable digression amid the current discourse concerning the environment.

In this section, I begin by summarizing the widely held conclusions regarding animal language systems. I investigate the possibilities and limitations of natural and artificial animal communication to determine what characteristics of language differentiate humans from nonhumans. Although there is overwhelming evidence that animals exhibit various levels of communicative abilities, intelligent behavior, and consciousness, the question addressed here is whether their communications are of the same genre as what occurs in human language-thought relations. Analyzing the level at which the differences are typically claimed to occur, I examine Cheney and Seyfarth's studies on the meaning and reference of vervet monkey calls, and then I compare their theoretical foothold with Wittgenstein's views on meaning and the mind to determine whether referential meaning is a distinguishing factor among species. In doing so, I hope to outline the differences in how linguistic behavior is important for determining some aspects of mental states, but for other aspects of consciousness, language fails to be a determining factor. In the end, I conclude that human language is unique not because it demonstrates higher levels of consciousness or mental states, but because it affords us with a uniquely rich system of articulated signification that dramatically affects the representation of a non-articulated world. Surprisingly, however, these linguistic and symbolic abilities are not the result of cultural evolution or progress, but rather simply a result of our basic neural

infrastructure that does language the way it does because it is the only way our brain can do it.[25] Only by clarifying these various aspects of language that we can begin to understand language in terms of how it relates to environmental philosophy.

Human and Animal Language

Much has been said over the past thirty years about the question of whether animals have language or only an ability to communicate. Humans have often asserted a fundamental difference between themselves and other animals in terms of language. Much of this thorny debate centers around the definition of "language" itself which turns out to be a rather simple label for an extremely complicated idea. Joel Wallman explains:

> Even if language did not have the sacrosanct status it does in our conception of human nature, the question of its presence in other species would still promote argument, for we are lacking any universally accepted unassailable diagnostic criteria for language.[26]

Although various attributes of language have been suggested,[27] no consensus has been reached determining the necessary and sufficient properties of language or criteria for its use. This basic disagreement among scientists, linguists, and philosophers has resulted in a highly contentious thirty years of research.

Nevertheless, researchers have demonstrated that some animals, namely the great apes (chimpanzees, gorillas, bonobos, and orangutans) have capacities resembling human language. Just how far that resemblance extends, however, has been a matter of some controversy. Researchers have attempted to train animals to communicate through either sign language or

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[25] Derek Bickerton, *Language and Species* (Chicago: University of Chicago Press, 1990), pp. 75-104; Derek Bickerton, *Language and Human Behavior* (Seattle: University of Washington Press, 1995), pp. 54-84; Jane Goodall and Phillip Berman, *Reason for Hop: A Spiritual Journey* (New York: Warner Books, 1999), pp. 93-94; Steven Pinker, *The Language Instinct: How the Mind Creates Language* (New York: Harper Perennial, 1994), pp. 240-242; and Deacon, *The Symbolic Species*, pp. 254-278, all strongly suggest that most likely, our brain does it this way as a result of an evolutionary biological event which happened millions of years ago.

[26] Joel Wallman, *Aping Language* (Cambridge: Cambridge University Press, 1992), p. 6.

[27] For example, novel word combinations, referential symbol usage, spontaneity, the capacity to represent real-world situations, syntax and grammar.

symbolic implements to test their linguistic capacities and cognitive abilities.[28] Research has shown that apes can make correct symbolic associations. The size of their vocabulary and combinatory ability has been demonstrated to be roughly equivalent to that of a two to three year-old human child. Apes master a refined system of communication and are capable of some abstract thinking. The chimps have lexicons comparable to the apes but they also have rudimentary syntax that lets them distinguish between actor and patient. The most commonly accepted line-in-the-sand has been drawn at the level of syntax. What seems to be absent in such sequences as "Give banana give Nim Nim banana Nim give" is a sophisticated sense of grammar patterning, syntax, and structure dependency. For Columbia psychologist Herbert S. Terrace, syntax marks the defining moment of separation between animals and humans. In his notorious 1979 article in *Science*, Terrace claims that "There is no evidence, however, that apes can combine such symbols in order to create new meanings."[29] Syntax has typically been considered a biological property of cognition responsible for our unique range of linguistic abilities.

Biologist Edward O. Wilson claims that most, if not all of natural animal communication research has uncovered a very narrow range of communicable topics: willingness to mate, willingness to defend territory, aggression or appeasement directed toward another, maintenance of contact with other member of one's group, or alarm calls that warn of approaching predators. Wilson also has suggests that there is little difference in the richness of communication systems

[28] For example, the Language Research Center at Georgia State University continues to study the behavior and performance of humans and nonhuman animals (principally rhesus monkeys and chimpanzees). The current research has a different emphasis than earlier projects. New research looks more at behavioral aspects of primates in terms of their cultural and cognitive implications. For example, experiments now are designed to reveal how these mental abilities develop, how they correspond with brain mechanisms, how they relate to one another, and how they are affected by cognitive (e.g., perceived control), social (e.g., competition), and environmental (e.g., microgravity) variables. This research is ultimately designed to examine how psychological well-being can be measured and maintained, as opposed to the animal language projects of the 1970s.

[29] Herbert S. Terrace, et al., "Can an Ape Create a Sentence?" *Science* 206 (1979): 900.

over a wide range of fish, birds, and mammals.[30] Human language, on the other hand, appears to be an open system: no matter how many things we can talk about, we can always add new things.[31] The fact that we can add freely to our list of topics, while other species cannot, has been the primary reason given by researchers who claim that the difference between animal communication and human language is a difference in kind, not in degree. For example, cognitive neuroscientist and linguist Stephen Pinker concludes that "human language has a very different design. The discrete combinatorial system called 'grammar' makes human language infinite."[32] Mark D. Hauser, professor of psychology and neuroscience at Harvard University, also concludes that syntax is likely to be one of the major differences between human language and animal communication because it indicates that human language is an open, and thus infinite system:

> From a structural perspective, animals clearly have rules that they use to combine sound sequences. From a communicative perspective, they do not seem to have rules for recombining calls in order to generate new referential content. In the absence of such combinatorial possibilities, their vocal utterances are severely limited with respect to the range of possible meanings.[33]

Language, as a discrete combinatorial communicative system suggests not only that it is an open-system, but a different kind of system. Syntax permits a limited number of words to be combined in novel ways, and permits openness and productivity. So while nouns refer to things or classes of things in the world, grammatical items such as *only* or *under* do not refer to anything at all,

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[30] Edward O. Wilson, "Animal Communication," in *The Emergence of Language: Development and Evolution*, ed. W. Wang (New York: Freeman and Co., 1972), pp. 3-15.

[31] Dorothy L. Cheney and Robert M. Seyfarth, *How Monkeys See the World: Inside the Mind of Another Species* (Chicago: University of Chicago Press, 1990). Cheney and Seyfarth claim that animal calls are wholly impervious to change, but such change is again of a different type than that of human language. For instance, the call repertoire of vervet monkeys varies in different part of Africa, and thus has obviously been added to or changed. But the few changes that do take place seem to do so at the slow pace of biological evolution itself.

[32] Steven Pinker, *The Language Instinct: How the Mind Creates Language* (New York: Harper Perennial, 1994), p. 334.

[33] Mark D. Hauser, *Wild Minds: What Animals Really Think* (New York: Henry Holt and Company, 2000), p. 201.

but rather serve to express structural relations between items that do refer. According to linguist Derek Bickerton, novel combinations utilizing syntax are lacking in animal communications where utterances are discrete and bear no systematic relation to one another. For example, seldom, if ever, do signs consist of a merger or combination of two other signs which singularly would convey a meaning different than when they are combined (e.g., "look out!"). When humans string words together, according to Bickerton, word order and syntax are not only critical to the intended meaning, they also serve to create new meanings as well.[34] Even in cases of artificial language where animals are trained, there is not a smooth continuum from the combinatorial possibilities of human language to the number of signs in, say, a chimpanzee's sign-language vocabulary. For example, after four years of training, the average length of Nim Chimpsky's "sentences" remained constant at around four words, and any semblance of grammar was almost non-existent.[35]

Conclusions such as these, however, have not gone unchallenged. Although animal language researchers have found no corollary to complex syntactical devices common in human language[36], the bonobo Kanzi has defied a long-standing belief. On a number of occasions Kanzi has been shown to produce unprompted creative word combinations, all without the help of syntax. According to Sue Savage-Rumbaugh and Karen E. Brakke, Kanzi produced novel combinations such as "car trailer" indicating that he wanted to be driven to the trailer rather than walk, therefore bringing about a set of events that otherwise would not have likely occurred.[37] Another example, according to Savage-Rumbaugh and Brakke, was Kanzi's production of "grouproom Matata." They describe the following incident:

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[34] Bickerton, *Language and Human Behavior*, pp. 11-40.
[35] Pinker, *The Language Instinct*, p. 339.
[36] For example, definite/indefinite articles, conjunctions, prepositional phrases, etc..
[37] Sue Savage-Rumbaugh and Karen E. Brakke, "Animal Language: Methodological and Interpretive Issues," in *Readings in Animal Cognition*, ed. Marc Bekoff and Dale Jameson (Cambridge: MIT Press, 1996), p. 280.

> Kanzi was in the grouproom when he produced this combination and he had just heard Matata vocalize. Generally when he wanted to visit Matata, he would so indicate by simply saying "Matata" and gesturing "go" toward the colony room (where Matata was housed). However, on this occasion, by producing this combination he indicated that he wanted Matata to come to the group room. In response to his utterance he was asked, "Do you want Matata to come to the group room?" He immediately made loud positive vocal noises first to the experimenter, then to Matata, apparently announcing something about this to her. She responded with excited vocalizations also.[38]

Kanzi's utterances are remarkable for two distinct reasons. Firstly, as opposed to the Gardners' study on Washoe's utterance "water bird," Kanzi's utterances were not elicited by factors present in the visible environment. Second, Kanzi made these creative combinations without an initial query by an experimenter. The fact that Kanzi was not prompted indicates that his utterances were associated with a mental state and level of intentionality that differed from Washoe's. I go into a more detailed assessment below about the relationship between mental states, meaning, and intentionality. The point here is that while Kanzi's capacity for complex syntactical devices remains quite limited, his ability to combine symbols without prompting, rehearsal, or by means of depriving him of his favorite play items implies that many of the fundamental aspects of language once thought germane to human language—in this case novel word combinations—is not specific to the humans species after all.[39]

Monkeys, Meaning, and Wittgenstein

In other areas of language research, experimenters have attempted to assess whether apes were capable of understanding the symbolic standing-for relationship of objects, actions, and abstract concepts. Around this same time when several psychologists were attempting to teach apes some form of human language, a group of field biologists began studying primate vocal repertoires under natural conditions. Initial studies revealed that primate vocal repertoires were

[38] Ibid.
[39] Ibid., pp. 283-286.

more variable than had previously been described, both in terms of their acoustic morphology and in the diversity of contexts in which calls were produced.

In Amboseli National Park, located in Kenya during the 1970s, anthropologist Thomas T. Struhsaker reported that vervet monkeys had developed particular warning calls for particular predators. This discovery suggested the possibility that the vervets had, over time, developed a natural system of symbols, word-like sounds that referred to specific types of predators. Struhsaker's findings encouraged a team of researchers, led by Dorothy L. Cheney and Robert M. Seyfarth, to assess whether referential meaning was indeed occurring and if so, whether "meaning" can be said to be a distinguishing factor between human language and animal communication. If vervets had the ability to refer, this discovery would do an end run around artificial animal language research by showing that natural animal communication carries meaning much in the same way as human language. This discovery would, yet again, seriously undermine traditional Cartesian convictions and challenge the assertion that language makes human thought possible and conversely, the absence of language in animals makes animal thought impossible.

Cheney and Seyfarth did indeed confirm that the east African vervet monkey has highly developed alarm calls. In fact, the vervet has at least three distinct alarm calls that seem to refer to three separate predator species: pythons, martial eagles, and leopards.[40] In this section, I look at Cheney and Seyfarth's studies on the meaning and reference of vervet calls, and then I compare their theoretical foothold to Wittgenstein's views on meaning and the mind to determine whether referential meaning is an adequate test to measure the existence of language and consciousness in animals. Cheney and Seyfarth claim that in terms of the vervets predator

[40] Cheney and Seyfarth, *How Monkeys See the World*. That it is the calls themselves that have this reference, and not any other behavioral or environmental feature, has been experimentally established by playing recordings of the calls to troops of vervets in the absence of any of the predators concerned.

warnings, the vervet world consists of two fundamentally different sorts of things: (1) objects, such as leopards, snakes, or eagles; and (2) vocalizations, which serve as representations of those objects.[41] Vervets respond to objects according to their physical features; and they respond to vocalizations according to the things for which they stand.

In one sense, we can describe an animal vocalization as having meaning whenever specific calls signify the presence of corresponding external objects or events. The term *meaning* seems appropriately applied here because even when the referent itself is absence (as in the playing of recorded vervet calls) the recorded call elicits the same response as when the physical referent is present. We might suppose that any relation between events in the world and meaningful utterances can be characterized as a mapping relation. That is, an operation that matches features of the environment with features of a (more or less arbitrary) representational system. So by saying that a python in the real world is matched with a particular call in the vervet system and the particular noun *python* in human language, would be to say that the vervet means *python* when giving the call. Having shown that monkeys make judgments about the vocalizations based on their referents, we might think, therefore, that these calls were the vervet "words" for the species concerned. But for Cheney and Seyfarth to determine whether vervets can *mean* in the same way that humans can *mean*, certain aspects of semanticity and meaning must be clarified.

It is often claimed by philosophers and linguists that human language involves more than just a recognition of the referential relation between words and objects, or the events they denote. When communicating with one another we also, at times, attribute mental states such as knowledge, beliefs, or desires to others, and we recognize that there is a causal relation between mental states and behavior. Moreover, what individuals think influences what they do. As

[41] Cheney and Seyfarth, "Meaning, Reference, and Intentionality in the Natural Vocalizations of Monkeys," in *Language and Communication: Comparative Perspectives*, ed. Roitblat, Herman, and Nachtigall (New Jersey: Lawrence Erlbaum Associates, 1993), p. 215.

listeners, we interpret not only words as referring to things but also as indications of the speaker's knowledge. In fact, we are acutely sensitive to the relation between words and mental states that underlie them. If we detect a mismatch of what the person says and what he does, we may consider that the person is trying to deceive us, or that there lacks an understanding of the meaning of the utterance or phrase. Thus, for Cheney and Seyfarth, human language has "meaning" in the "strongest sense." [42]

When considering forms of animal communication, Cheney and Seyfarth propose that meaning is not an all or nothing affair, but instead has various levels of strength. According to Cheney and Seyfarth, a three-question criteria must be met to conclude that the vervet calls qualify as having meaning in the strongest sense: (1) Do animals ever attribute mental states to one another? (2) Do animals know that these mental states can affect behavior, and as a result, (3) do they vocalize not only to influence what other animals do but also to influence what they think? Cheney and Seyfarth conclude:

> …the calls of vervets and other monkeys seem not to be semantic in the strongest sense of being given with an intent to modify the mental states of listeners, or to draw listeners' attention to the signalers' own mental states….We suggest that the monkeys cannot communicate with an intent to modify the mental states of others because they do not recognize that such mental states exist.[43]

The most parsimonious explanation, according to Cheney and Seyfarth is that only the animal's own state or condition is being conveyed and therefore, we have no reason to believe that the alarm calls were in intended to influence the mental states of the other vervets. Here, Cheney and Seyfarth seem to be drawing upon the distinction between *knowing how* and

[42] In their study Cheney and Seyfarth use the term *semanticity*. Since *semanticity* is ostensibly synonymous with *meaning*, for stylistic reasons I use *meaning* henceforth when analyzing their studies.

[43] Cheney and Seyfarth, "Meaning, Reference, and Intentionality in the Natural Vocalizations of Monkeys," in *Language and Communication: Comparative Perspectives*, pp. 195-219.

knowing that. For instance, vervets may be very good at knowing *how* to warn, by following various rules and such, but may not know *that* they are warning other vervets.

In agreeing with Cheney and Seyfarth, Bickerton also concludes that it is a mistake to think that a warning call actually means "There is a predator approaching!" (in the strongest sense).[44] It might simply mean "I am alarmed by a predator approaching." If that were so, Bickerton continues, then the warning call would be simply a case of how-I'm-feeling-right-now, and thus, most similar to the kinds of information body language conveys. Of course, "I am alarmed by a predator approaching!" logically entails "There is a predator approaching." But one is hesitant to conclude, using the criteria set by Cheney and Seyfarth, that the alarm call of vervet (or any other animal) conveys factual information, even though information may be inferred from them.[45]

This distinction might suggest that animal calls such as the vervet's are merely reflex responses, like our own vocalizations of surprise caused by a sudden loud noise. Things turn out, however, to be slightly more complicated. Cheney and Seyfarth go on to show that vervet monkeys do not always call when a predator appears, and that the likelihood of their calling will be influenced by contextual factors, such as the presence or absence of close kin. It turns out that an isolated vervet faced with a terrestrial predator, will give no alarm call but will run up a tree.[46] Therefore, a better translation, according to Bickerton might be "I am alarmed by a predator approaching and I feel you should share my alarm." Still skeptical, this interpretation, says Bickerton, lies firmly within the domain of what-I-feel-or-want rather than what-I-know.[47] But the fact that running up trees is the preferred strategy for avoiding terrestrial predators indicates

[44] Bickerton, *Language and Human Behavior*, p. 13.
[45] Ibid.
[46] Cheney and Seyfarth, *How Monkeys See the World*, p. 174.
[47] Bickerton, *Language and Human Behavior*, pp. 13-14.

that running up a tree is no more than a response to the presence of such a predator (whether personally observed or inferred from a call), thus it is a response which would occur whether the warning monkey meant for it to occur or not. Even with this consideration, Bickerton concludes, "what-I-want is still very far from what-I-know."[48]

Something feels dreadfully amiss here, or as Wittgenstein might remark, "One smells a rat." Recall that Cheney and Seyfarth claim that the vervets' calls have meaning in the "strong" sense in that the calls refer to something. But they do not believe that the vervets' calls have meaning in the "strongest" sense; that would entail not only awareness of each other's mental states, but an intention to modify those mental states. But why would it be important to show that an alarm call has influenced the mental states of other vervets for that alarm call to be thought of as meaningful? Do the vervets not respond appropriately to the alarm call by running up or down trees? It seems they do. So what would be the point of demonstrating beyond the fact of appropriate physical responses that the vervets' mental states had been influenced? Why need there be any other indication for the calls to be considered (in the strongest possible sense) meaningful?

At various times, as Wittgenstein points out, the "telling" is the immediate purpose of language.[49] The "mental state," which may indeed exist alongside such an utterance and reception of a vervet warning has nothing to do with the call itself. Why should Cheney and Seyfarth assume that the receiver of the call gets any more out of what the call conveys? Moreover, what other meaning would one possibly hope to find accompanying a warning call? If the vervet calls were about something other than a response to a predator, say perhaps a commentary on the gloss of a leopard's coat, then a variety of potential responses would indicate

[48] Ibid., p. 14.

[49] Ludwig Wittgenstein, *Philosophical Investigations*, trans. G.E.M. Anscombe, 3rd ed. (Englewood Cliffs, N.J.: Prentice Hall, 1973), p. 114e.

acknowledged mental states and whether those calls were intended to affect those mental states. It seems just as likely that if alarm calls are intended to affect the vervets' mental state, they are equally intended to elicit a physical reaction. But since the calls *are* predator calls, the most reasonable response is the physical reaction of running up or down trees. What other behavior would one hope to find accompanying such a warning call?

Cheney and Seyfarth intended to demonstrate that the vervet's form of communication wasn't equivalent to language. While they concluded that the calls did indeed refer in the way that human language "talks" about things in the world, they denied that the calls were meaningful in the sense that the vervet's calls were realizations of the mental states of both the speakers and receivers of those calls. However, the nature of alarm calls, as I have argued, are inadequate for demonstrating that vervet alarm calls lack a corresponding awareness of such mental states. I am reminded here of Wittgenstein's example in *Philosophical Investigations* that there need be no particular idea in my mind when I say "March" in reply to the question, "When is your birthday?" No particular end-of-winter thought need have passed through my mind to give a correct answer; and if I uttered "March" to a practicing drill squad, I may be mindlessly dreaming of the snowy Sierra mountain peaks.[50] Clearly in these two circumstances the word *March* has quite different meanings, and its utterance produces quite different kinds of effects, but there need not be anything particular going on in my mind for me to achieve these effects, nor for that matter in the mind of the vervets to achieve their particular effects. Or as Ian Hacking says, "There need not have before me, in the one case, a month-idea, and in the other, a foot-slogging-idea."[51]

[50] Ibid., p. 215e.

[51] Ian Hacking, *Why Does Language Matter to Philosophy?* (Cambridge: Cambridge University Press, 1975), p. 24.

Philosophers of language have found the idea of a single unitary theory which can account for all utterances extremely problematic. For instance, Wittgenstein explicitly rejects the notion that meaning entails the sharing of mental states, and presents numerous arguments against unitary theories of meaning, such as referential meaning, by proposing that a word and its meaning cannot be disassociated analytically. In Wittgenstein's later work, the meaning of a word is simply its use in language. Furthermore, he criticizes the three fundamental types of unitary meaning: (1) meanings are objects, (2) meanings are images, and (3) meanings are feelings and mental experiences, by showing that things get done in language—the immediate purpose of language is achieved without employing any of the three theories. There exists an enormous gap, according to Wittgenstein, between actual linguistic behavior and unitary theories. People behave linguistically, without reference to objects, images, or mental experience because they are in agreement to adopt specific techniques or rules for using words and for reacting to the use of words.

Rather than showing conclusively that the vervet's calls fail to compare to the words in language-thought relationships, Cheney and Seyfarth have inadvertently shown that not all forms of reference require some conscious concept or meaning to determine it. The error of requiring a corresponding mental state points to a deeper problem for Cheney and Seyfarth and one that lies at the heart of Wittgenstein's critique of Cartesian dualism.

Mental States, Animal Minds, and Wittgenstein

As previously noted, Wittgenstein, in his later works, rejects the idea that understanding the meaning of expressions entails the understanding of our private mental states or processes. So while he rejects the idea of unitary meanings by showing that things get done in language without them, he considers such confusions about meaning are the results of a larger

misconception about private mental states in general. Wittgenstein attributes this larger confusion to the philosophical tradition of Descartes. For Descartes, the fundamental starting-point is the existence of the *ego*, of whose existence is certain. Descartes held that the special status of our acquaintance with our own psychological states supplies the foundation for whatever else we can come to know or at least believe with justification, for on the traditional view, we know with certainty the content of our own thoughts, experiences, and so on, but have to draw more or less doubtful inferences from these to whatever lies outside of them. From this conception, first-person knowledge of psychological states is wholly unproblematic, whereas third-person knowledge of them is quite troublesome. The reason for this epistemic gap is that detecting such mental states in others—even more so for animal minds—is at best a matter of inference from modes of behavior which others manifest.[52]

Although Cheney and Seyfarth recognize that the vervets have language to a certain degree, they reject the notion that having language confirms animal thought. In arriving as this double-standard, Cheney and Seyfarth seem to have internalized Descartes' view and applied it when determining the status of the minds of vervets. We might even imagine how this internalization came about in their methodology. It is likely that Cheney and Seyfarth first observed compelling examples of vervets making verifiable reference-object utterances; for example, "XYZ" whenever a leopard was spotted prowling the area, and different calls when other types of predators were present. So clearly, they surmised, the calls had meaning in a referential sense. But upon introspection, Cheney and Seyfarth also thought about and acknowledged the presence of *their own* particular mental states that accompany instances of referring. Perhaps when reviewing their data, for instance, Cheney and Seyfarth "had in mind" a

[52] Based on his *Discourse on Method, Part Five*, Descartes would not have even included animals in the category of "other minds" as I do here. In fact, he considers them machines whose apparent displays of consciousness, such as pain, are mere reflexes and therefore devoid of corresponding feelings.

rich understanding that stood for the idea of the vervets to which they often referred. Furthermore, they would be certain that they each held such mental concepts because of the obvious ease with which they discussed and wrote about their studies together. However, in the end, they could not, with the same level of certainty, ascribe the same sort of mental states to the vervets they were observing. The vervet behavior was undoubtedly appropriate in that it matched up with the correct call, but in adopting, perhaps unwittingly, Descartes skeptical epistemological stance, Cheney and Seyfarth concluded that behavior is not enough to determine the existence of mental states. Therefore, the vervet calls fail to have meaning to the extent that human utterances have meaning because although you can *know* behavior, you cannot *know* the existence of the mental states of others.

In rejecting this kind of Cartesian skeptical position regarding other minds, Wittgenstein inverts the order of difficulty: it is not a question of the other minds or third-person ascriptions of mental states which is problematic. Instead, what is mistaken is the notion that first-person ascriptions of mental states are reports or descriptions of essentially private inner psychological events. Wittgenstein argues that locutions such as, "I know" or "I understand" can be grammatical fiction which can appear to function as mental states because of their nature as action words.[53] Wittgenstein denies that such locutions are private mental events and argues instead that they are manifestations or expressions forming part of the behavior to which the psychological states are about. So to say, "I have a toothache," is not a description of my mental anguish, but rather an expression of pain, or pain-behavior.[54] Expressions are different from descriptions although they can share the same grammatical structure: "I have a toothache" and "I have five dollars" are structurally similar, but the first is an expression, the second a description.

[53] Wittgenstein, *Philosophical Investigations*, pp. 102e-3e.
[54] Peter M.S. Hacker, *Wittgenstein: On Human Nature* (New York: Routledge, 1999), p. 38.

In another example, a certain grammatical structure surrounds our use of the verb "to know" as applied to physical entities: I know about a table, for instance, by perceiving one or learning about one through various empirical information, and my knowledge is supported by evidence. Mental states, however, are not supported empirically in the same way: to be able to say that one knows X, or that one intends Y is not to have access, let alone privileged access to anything perceptible, for one does not perceive one's knowledge or intention the way one sees a movie on a screen.

In asserting that we don't always know our own mental states, Wittgenstein was not claiming that we are sometimes ignorant of the fact that we are in pain. He did not reject the presumed certainty of the inner in order to affirm its incredulity. Rather, he rejected the Cartesian view because it and its negation are nonsense or, at least, do not mean what philosophical reflection takes them to mean. Wittgenstein summarizes the point by saying, "It can't be said of me at all (except as perhaps a joke) that I *know* that I am in pain. What is it supposed to mean—except perhaps that I *am* in pain?"[55] Just as there is no such thing as being ignorant of one's pain, it would be nonsense, if someone were to say, "I am in pain, but I don't know it," or "I thought I was in pain, but I was mistaken." To be aware or conscious of a pain is just to have a pain; awareness or consciousness here is a distinction without a difference. Pain, along with other psychological verbs, seems to foster a sense in which mental states are events upon which we reflect in order to verify their existence. Wittgenstein shows that it is a mistake to construe grammatical connections of words for empirical or metaphysical connection which seemingly determines the essential nature of the mind and our access to it.[56]

[55] Ibid., p. 89e.
[56] Hacker, *Wittgenstein*, p. 27.

Talk of *introspection* is metaphorical, according to Wittgenstein. I may see that another sees something, but not that I see that I see. I may hear what someone is listening to, but not perceive that I am hearing something. So when Cheney and Seyfarth have a thought, for instance, although they can say so, their ability to say so does not rest on observing the events in their minds. There is such a thing as introspection, but it is not a form of inner perception. Instead, it is a form of self-reflection in which one engages when trying to determine, for example, the nature of one's feelings. Wittgenstein remarks on the nature of *introspection*:

> Does it make sense to ask "How do you know that you believe?"—and is the answer: "I know it by introspection?" In some cases it will be possible to say some such thing, in most not. It makes sense to ask: "Do I really love her, or am I only pretending to myself?" and the process of introspection is the calling up of memories; of imagined possible situations, and of the feeling that one would have if….[57]

Introspection upon our mental states, then, is really only a form of reflection rather than based on the transparency of the mental. Indeed, the very idea of the transparency of the mental state is confused. It is intelligible to say that something is as it appears only if it also makes sense to say that it is other than it appears. To say that "I know what I am thinking" emphasizes the exclusion of ignorance and doubt. However, I cannot doubt whether I am thinking, but not because I am certain that I am. Rather, nothing counts as doubting whether one is thinking. Doubt here is not refuted by available grounds for certainty, but excluded by grammar.[58]

The corollary of all these points is that they force us to reconsider the philosophical concept of *knowledge* as it applies to the views made by Cheney and Seyfarth regarding the mental states of vervets. The objection here, however, is not so much to provide more evidence in order to prove the existence of vervet mental states. The lesson Wittgenstein imparts is that for Cheney and Seyfarth the type of certainty they ascribe to their own mental states is the result of

[57] Wittgenstein, *Philosophical Investigations*, p. 154.
[58] Hacker, *Wittgenstein*, pp. 27-30.

grammatical rules rather than coming from the empirical evidence of those mental states. Therefore, any comparison between human minds and animal minds is far less compelling if that comparison is a result of mistaking grammatical connections for empirical evidence of our own mental states. Cheney and Seyfarth's reflections upon their own mental states during instances of referring is a mistaken criteria when used to evaluate the existence of vervet mental states. Do Cheney and Seyfarth have a rich understanding of the east African vervet monkey? Absolutely. But during the isolated act of referring to the vervet, it would be a mistake to think that their rich concept flashes before their minds like a movie on a screen. Likewise, it would be unnecessary and indeed, unfair to hold the vervet's standards of referring to the standards of private mental states that humans do not even attain.

Reference, while important, is only one of the functions that linguistic expressions perform. Moreover, the mechanisms of referring appear to be different from the way words refer, although certain key features of animal vocalizations do share common aspects of the way words function in language (e.g., learned associations, arbitrarity, reference, and transmission of information from one individual to another). Cheney and Seyfarth do indeed demonstrate *that* something is ultimately brought into reference; what they fail to note is *how* particular call-referent relationships come into being in the first place. They fail to note that the biggest difference in an alarm call is that it relies on a relatively stable spacio-temporal correlation between reference and referent, and that language for us doesn't require the same type of spacio-temporal links for referential relationships to work.[59]

[59] In its strict sense, the spacio-temporal restrictions attributed to animal communications have been challenged recently by Kanzi when utterances have been shown to refer to things and events not immediately in his presence. What is unmatched, however, is the human ability to articulate dizzying levels of intentionality through modal verbs and tense references. For example, "I would like to go to graduate school in ten years or so, but not before then."

Based on Wittgenstein's views about meaning, despite the fact that vervet calls are relatively advanced when compared to other animal vocalizations, they are not significantly different from the way humans would likely intend warning calls to be meaningful and thus, understood. This conclusion initially seems to indicate that if language does indeed separate us from our closest biological relatives, the difference is clearly not in terms of "meaning," but elsewhere. But, this , I believe, would be a short-sighted conclusion.

In the following section I expand upon the word-object relational differences between animal communication and language in terms of its underlying functions, mechanisms, and cognition. I propose that our representational system is more sophisticated to a significant degree: it affords us with not only the exceptional capability of referring to things not in our immediate presence, but also to refer to linguistic terms and expressions which lack the type of referents examined heretofore.

Language, Cognition, and the Differences

The nexus between thought and language is one of the main problems facing contemporary philosophy. What is the nature of the difference between thoughts and language? This distinction characterizes language and thought as if they were independent. Perhaps the main reason for this difficulty is that we do not have a clear understanding of the concepts of thought and language, and consequently, different claims about their relation are possible. At some point, however, any theory grappling with the problem of language as it relates to human cognition must also adequately account for other conditions. Namely, one must give an account for the intelligent behavior of animals. In some cases, animal behavior and communication have apparent analogs to human reasoning.[60] But one does not have to look very far to find claims that the possession of language makes human thought possible and the absence of language in animals makes animal

[60] See Konrad Lorenz, *Behind the Mirror* (New York: Harcourt Brace Jovanovich, 1973).

thought impossible. To sort this problem out, I frame the analysis into two related questions. The central questions addressed in this section concern whether animal communications are cognitively connected in the same ways that language is connected to human cognition, and if language is necessary for thought, what follows about the animal minds?

The singular example of vervet alarm calls, noted above, only goes so far in drawing conclusions about animal cognition, as also shown, the methodology used is often so saturated with erroneous philosophical presuppositions that conclusions are prone to equally erroneous outcomes. Conclusions regarding animal minds must also take seriously the numerous other examples of animal communication and behavior that demonstrate wide-ranging forms of intelligence.[61] Still to date, however, vervet alarm calls are remarkable in that they share at least the arbitrariness of words and can serve as closely-paired examples of nonhuman words. Their ability to not only refer, but to refer differentially has made it all the more difficult to make all-or-nothing claims of language for certain species. The question framed in this section is, "In what ways, if any, are vervet vocalizations comparable to 'words' in human language?" That said, it is worth remembering that the reason for drawing out, and at times belaboring the comparisons between vervet vocalizations and language is to contrast it with human language so as to illuminate the immense complexity and unique epistemological implications that follow from language. The comparisons are not to disparage animal communicative abilities. In the end, I do think we have reason to believe certain things about animal cognition as compared to human cognition, but again, those conclusions say more about humans than about animals.

Humans, like other creatures, process data from the environment in their sense organs to create a representation of the world. With the exception of the simplest creatures, messages do

[61] See Eugene Linden, *The Parrot's Lament: And Other True Tales of Animal Intrigue, Intelligence and Ingenuity* (New York: Penguin Putnam, 1999)

not go directly from sense organ to motor cell. The neural infrastructure afforded a creature likely determines the magnitude and extent to which its representational system interfaces with the world. Accordingly, the categories a creature can distinguish are determined not by the general nature of reality but by what the creature's nervous system is capable of representing. The capacities of that nervous system are, in part at least, determined by what the creature minimally needs in order to survive and reproduce. For example, upon receiving an appropriate leopard call, the neurons which constitute the representational space for the vervets directly influence the motor cells that control the behavioral routine of running up the nearest tree.[62] Like human language, the vervet's communication system can be broken down into discrete linguistic units—three calls for three different predators. The difference is not just quantitative, but qualitative, in that each of these calls has a specific functional goal when used—namely, to bring about a particular reaction in the receiver. Thus, if one vervet utters a certain type of call, other members will react in a predictable way—by running up or down trees.

Human language differs from these calls because the units of language do not have a prescribed function and do not bring about a specific reaction in the receiver. If, for instance, I were to suddenly exclaim "leopard!" you would not know how to react. Was I merely pointing out one, warning you of one, beginning to recite a list of major predators, or answering a trivia question? Moreover, you would certainly not have any idea what I might intend you to do. However, if a vervet monkey makes the warning call for *leopard*, most, if not all, vervets within earshot will run up trees.

[62] According to Bickerton in *Language and Human Behavior*, p. 55, it turns out that monkeys do not run up trees every time they hear a leopard call. Their behavior is still within a myriad of social contexts which may present conflicting impulses. Bickerton explains, "Brain functions do not operate through wholly encapsulated modules that cause inescapable consequences; there is always the possibility that another message, coming from somewhere else in the brain, triggered by some other aspect of the environment, will inhibit the running-up-a-tree response." The infant vervet's calls are an example of this, and because they are still refining their calls and are prone to mistakes, do not elicit the same type of response as adult vervet calls.

The point here is not that human language can be used for certain things such as giving warnings, but that the vervet calls, and perhaps animal vocalizations in general, are not used for anything except to try to control the behavior of others. The fact that you did not react when I used the word *leopard* is in all likelihood because the linguistic links in the brain are not directly connected to any single behavioral response. In this respect, Hauser's comparison of vervet calls with human warning calls seems to indicate a misunderstanding of how representational systems differ, and just how language functions differently even in cases of yelling "fire!" Hauser writes:

> If the vervet's alarm calls are like words—sounds that refer to particular predators—then the listeners should be able to respond appropriately to them even without any contextual information. In the same way that I know to run out of a building if someone yells, "Fire!" vervets should know which escape response to select when they hear the cat, eagle, or snake alarm call. We don't need to see or smell smoke, and vervets shouldn't need to see a predator or see others fleeing in a particular way.[63]

Hauser correctly concludes that upon hearing *fire!* we would, in turn, head to the nearest exit and not necessarily need to see or smell smoke in order to do so. But Hauser seems not to understand that when we hear *fire!* we might also first ascertain the whereabouts of the fire so that in planning an escape route we do not accidentally run toward the fire. In fact, certain people such as firefighters, upon hearing *fire!* might be compelled to proceed toward the fire. The point is that, unlike vervets, we would not necessarily be inclined toward any single physical response. *Fire!* can have a variety of semantic possibilities precisely because for us language acts as a kind of buffer between ourselves and reality. Because of our particular representational space, words can *mean* nearly anything. We can take *leopard, fire,* or whatever (indeed *whatever!*) to represent a concept, an object, a class of objects, an event, a sarcastic response, and so on. *Leopard,* for instance, can be thought about as a physical object, a concept, or turned around and looked at from a variety of angles—all the while, without feeling immediately inclined to run

[63] Hauser, *Wild Minds*, pp. 187-188.

away, shoot it, or do any other thing. We have this flexibility because in language words and concepts contain a dynamic element, they are not static symbols on a rigid, map-like sheet. Words and concepts function fluidly by delimiting entities or classes which provoke a variety of different sets of behaviors. *Leopard* is a concept not because it represents a genetic species or a set of static attributes, but because the concept serves to trigger a set of expectations for potential behaviors that may include appropriate physical reactions or linguistic responses. Linguistic markers do not determine in advance an appropriate associated behavior; instead, language is what accounts for the unique flexibility that accompanies it.

For example, in the presence of a giant redwood tree or presented with an image of such a tree, one might be inclined to associate various meanings or feelings to the tree's representation. For lack of a better term, let's call these feelings impressions, and these impressions in turn could potentially be expressed in a meaningful sense if provoked—meaningful, that is, in that the responses or descriptions resulting from the representation would seem reasonable or appropriate for the occasion. One might comment, say, on the tree's immense stature, its broad orange-red trunk, or perhaps on how much money it would bring in board feet, and the hearer would understand the statements within the context of the situation. Within the representational space, images, sounds, smells, tastes, and even textures can potentially evoke interpretations—all of which can, in turn, be articulated through various means of language. We may not react linguistically to all sense-data, nor are all sense-datum equally provocative. The point is that any perception is potentially a linguistically articulated impression residing in the representational space.

The reverse process is equally possible. For example, a person may speak or write, "California's coastal redwood tree may grow to a height of 367 feet, its orange-red trunk can be

as wide as twenty-two feet at its base, and its canopy of needles stays green all year round." Similarly, but rather than describing characteristics, a speaker could note the various classes of redwoods by saying, "There are three different types of redwood trees: Coastal redwoods, Giant Sequoia, and the Dawn redwood." Upon hearing such descriptions, as either in particular characteristics of a single tree, or in the description of classes of trees, even if one has never seen an image of a redwood tree, the hearer could begin to imagine such objects. This is not to say that the hearer's image would be precise or a complete "picture," but under reasonable conditions, the description would be meaningful in that various impressions resulted from the account.[64] The point is that any of the impressions resulting from the linguistic descriptions can be interpreted in a variety of ways. Again, the meaning of the impression might simply be a vague feeling, but could also mean nature's beauty, or the economic value of large redwood trees. More importantly, such impressions need not be exclusive of one another, impressions can be various and in fact, seemingly contradictory in some cases. It is possible that a person who writes a poem extolling the majestic beauty of an old growth redwood could be the same person who cuts one down for profit.

At this point, the previously considered observation that objects and things are represented in language takes on surprising implications. Language affords us the ability to react differentially to various representations as well as the ability to be aware of different sorts of things based on the same material datum. Our representational abilities allow us to not only to interpret external data variously, we are also capable of representing that data in various modes of linguistic expressions. For example, we are not only capable of denoting individual entities, such as a "leopard," we are also able to denote those individuals as properties of class or genre,

[64] There are a few problems with this example. For instance, a hearer deprived of sight would likely require other types of descriptions that corresponded to other senses such as texture or smell.

such as “leopards.” Behavioral correlates indicating analogous levels of representational abilities in vervet monkeys, and likely other species, seem to be either severely diminished or absent. This, of course, does not necessarily exclude the cognitive possibilities of other species. As noted, ethnologists cite numerous examples of animals having various levels of sophisticated cognition. What we do have reason to believe is that certain mental states which are about language or that occur with the aid of linguistic markers or mneumonics are mental states that only occur in the minds of those language users. In other words, if there are any mental states that require language, animals do not have those states, and moreover, they cannot have thought processes involving those states. John R. Searle agrees when he remarks:

> Clearly there are such states. My dog can want me to take him for a walk but he cannot want me to get my income tax returns in on time for the 1993 tax year. He can want to be let our but cannot want to write a doctoral thesis….To have these latter sorts of desires he would have to have, at the very least, linguistic abilities….[65]

Searle’s point here is that while some mental states, such as certain types of desires or wants undoubtedly occur, mental states that are essentially linguistic and thereby generated and bound by language are only possible for language users. Searle outlines five such examples of language dependent states:

> (1) Intentional states that are about language.
>
> (2) Intentional states that are about facts which have language as partly constitutive of the fact.
>
> (3) Intentional states that represent facts that are so remote in space and time from the animal’s experience as to be unrepresentable without language.
>
> (4) Intentional states that represent complex facts, where the complexity cannot be represented without language
>
> (5) Intentional states that represent facts where the mode of presentation of the fact locates it relative to some linguistic system.[66]

[65] John R. Searle, *Consciousness and Language* (Cambridge: Cambridge University Press, 2002) p. 65.
[66] Ibid., pp. 69-70.

Searle here is enumerating general guidelines for certain mental states that are, at least in terms of comprehension, a result of linguistic competency. These guidelines also suggest that mental states for animals are more complex than presented in all-or-nothing arguments. For the vervets, according to Searle's qualification, in addition to various intentional states of mind such as wants, desires, and fears, there also likely exists some "what-it's-like" sense that accompanies the vervet's referential utterances—whatever those may be.

For humans, though, the term *eagle*, which in addition to denoting the individual animal itself, is also capable of having metaphoric associations all of which can be said to "mean" something, perhaps notions of nobility, solitary, strength, or even, freedom—all of these having rich linguistic connotation and thus, requirements for their comprehension. So unlike our genetic cousins, linguistic utterances can not only refer to external entities, but modes of relationships can be formed among the meanings of the terms themselves. Countless times a day, we end up performing this kind of mental acrobatics. So while humans, either as individuals or within a particular culture, can be considered linguistic agents in determining *what* the meaning of a term ultimately is, we are not responsible for the fact *that* the interpretive process occurs in the first place. What ends up counting as reality is, thus, a function of the system of representation that we bring to bear on reality, namely that of language.

In the following section, I elaborate further on this meaning-making process of language, and argue that this function suggests a complexity which causes problems for the standard linear model of linguistic representation.

Circularity, Symbolism, and Meaning

Bickerton argues that "Language mediates between the world and our species."[67] This insight, however, is not especially profound in itself since philosophers of language have long been concerned with this mediating process by which words relate to the world. What is important to understand is that Bickerton considers the mediation process to be completely unintentional. Bickerton's "mediation," actually involves a two-fold function: (1) language is the epistemic bridge that serves to cross the gap between ourselves and our understanding of the world, and in doing so, (2) also creates a flexible gap between ourselves and the world. Bickerton continues:

> Language is in fact the subtle, many-layered lens that created [the] world—the *lens* without which all that we know would dissolve into chaos.[68]

Bickerton's "lens" metaphor, while perhaps overstated if he considers that language creates the world, is nonetheless correct in suggesting a neo-Kantian theory of language. This suggestion is important to consider because language functions as a particular mode of mental cognition, and moreover, language functions representationally independent of our desire that it do so. Bickerton is more careful and explicit in his later writings when he argues:

> Anyone who looks at language up close must conclude that the complexities of language are its own special complexities, arising from sources very different from the desire, conscious or otherwise, to make complex cultures manipulable. And the most plausible complexities is that they are conditions imposed by the mechanisms that produced them…. In other words, language is the way it is because that is the only way the brain can do it.[69]

Note that the view, "this is the only way the brain can do it," clearly points to a neo-Kantian epistemological theory of language, and to the idea that formal modes of cognition exist as

[67] Bickerton, *Language and Species*, p. 226.
[68] Ibid., p. 257 (emphasis added).
[69] Bickerton, *Language and Human Behavior*, pp. 35-36.

properties of language. Without the neural infrastructure that affords language, it could not perform the social, communicative, and mental functions that it does perform.

Bickerton's view of language as a neuro-linguistic filter appears accurate enough, and is in fact a general adaptation of an already widely accepted theory of language.[70] Nonetheless, such a theory fails to fully account for language's circularity and meaning making. Since Bickerton is primarily concerned with the formal properties and cognitive origins of language, his brief treatment of language's circularity is understandable.[71] Despite framing language in terms of representational systems, his view of language is that of a semi-passive filter which organizes a unidirectional flow of information from the flux of world experience. A linear model of language such as this is problematic in that it tends to cast the process and use of language in overly simplistic terms. Furthermore, language as a linear model of representation is misleading for it captures only part of the process, specifically, the incoming data. Such a view of language either underestimates or ignores a crucial aspect, namely, the internal semantic transformations. Language is a much richer ability than simply a cognitive process providing nomenclature; language is also what enables us to generate categories. In this last section, I challenge the linear representational model commonly associated with theories of meaning, and then suggest an alternative theoretical footing for handling language's complexity and influence. Examining how language uses symbolic representation is a key factor that once again suggests important differences between humans and animals, and in doing so, reveals how "meaning" as a function of language is a psychocultural process.

[70] The most widely noted research in this area has been led by linguist Noam Chomsky, *Language and Mind* (New York: Harcourt-Brace, 1968); *Reflections on Language* (New York: Pantheon Books, 1975). More recently, Chomsky's colleague Pinker, *The Language Instinct*, has made further contributions expanding upon Chomsky's original insight.

[71] Bickerton, *Language and Species*, pp. 47-53.

Bertrand Russell believed, and found great difficulties when he did believe, that nouns referred directly to entities in the real world. For Russell's conception of meaning to be sensible, every lexical item would have to refer to an object that existed. That object would, of necessity, have to be specified with some degree of precision, but in addition, any word that referred to a non-existent object would have to be meaningless. Frege ends up rejecting this view of Russell's. What is interesting about Frege's rejection of purely designative theories of meaning, such as Russell's, is that it bears a strong resemblance to the way human language and animal calls differ. Frege showed that meaning and reference are not identical, and that such a designative theory ignores the activity underlying meaningful uses of language. Frege claimed that words are not just attached to referents like correlations we meet in the world. They are also used to grasp these referents—that is, they figure in an *activity*. Only in the context of a sentence does a word have meaning. Thus, they differ in the way, manner, or route by which they affect their ends. For us, the sole exclamation of "leopard!" without a perceptual correlate, gesture, or context has an ultimately confusing meaning. The vervet call for leopard works in a less confusing way for vervets because it is precisely correlated, has a single referential meaning by way of what it is and what it designates.[72]

Animal vocalizations rely on the stable correspondence in experience between the non-language sign and its reference—in this case between the call and the experience of the predator. This is not the case in language. The strength of language's referential link isn't strictly based upon a physical correlational association. We are not referentially bound to the immediacy of

[72] Cheney and Seyfarth note that every now and then vervets will use an eagle call for something other than an eagle. It is no help to say that the vervet made a mistake. Why did it make a mistake? Most likely, it thought it saw an eagle. This happens most often when infant vervets begin using alarm calls. The infant vervet gives alarms to pigeons and so forth that pose no danger to the vervet. In this way the vervet is simply overgeneralizing much in the same way a baby human overgeneralizes and calls all adult males "daddy." In other words, if the vervet is wrong, it is wrong because it is responding to its own act of identification rather than the object itself. Vervets respond to their own identifications under all circumstances. But in that case there cannot be a direct link between a call and object. The call labels an act of identification.

events either spatially or temporally; and furthermore, often times, our words do not refer directly to objects or processes in the world at all, but rather to other words, concepts, or a combination of associated ideas. This ability indicates the malleable degree to which humans represent the structure of reality. Our neural linguistic structure allows us to not only think and communicate about items in our immediate environment and also about things of which we have only limited experience, it also allows us to think and meaningfully discuss things we may have never experienced, and for that matter, never will.

Language, then, seems to create its own type of linguistic reality. Not only does language serve as an interface with the world through representations in a realist sense, we also interface with language itself by way of abstract concepts, categories, and classes which have no actual material perceptual correlates. For instance, what is the referent of *feline*? Since the *feline* is a general term rather than a singular term, it refers to a class of animals whose members include any animal in the cat family.[73] The point is that despite its abstract form, *feline* does have a particular range of meaning, both analytically and synthetically, and as such, it also remains cognitively effective. With language we scale up and down the ladder of referential abstraction with effortless ease. Regardless of whether we are speaking of a particular animal or class of animals, both contain a criterion of cognitive significance. In other words, language persists to be cognitively effective insofar as it represents concepts based on a functional utility as dictated by the values of a cultural group. The word *feline*, for example, may indicate a biological

[73] While concrete nouns seem to escape the problematic issues of "meaning," as discussed above, abstract nouns are not so easily let off the hook. This problem seems to be symptomatic of a more general difficulty, which is that the most direct bearing of experience on language seems to be as evidence: our experience gives us reason to think claims about the world are true or false. You can't have evidence of, say, *feline*. That is, you can't have evidence for words, you can only have evidence for sentences. For example, although it makes no sense to speak of evidence for *feline*, it is quite reasonable to speak of evidence for "There is a feline in the room." If experience bears on language primarily as evidence, then it seems that it bears more directly on complete sentences than on individual words. This insight is typically credited to the positivists who were criticizing the classical empiricist's contention that the meaning of a word was an idea.

classification that might be used to identify a type of mammal. It would likely be important to certain scientists in certain fields of study; but for the lay person, it doesn't carry an extraordinary range of cultural meaning, nor does it typically invoke a wide variety of political implications. It doesn't, but it could.

Take again the example of the redwood tree. Redwoods are commonly understood as a member of a class of large evergreen trees found near the Pacific coast. As a general term, *redwood*, like *feline* doesn't have a single material referent; unlike *feline*, however, *redwood* is replete with meaning. For instance, the biological community's scientific understanding of redwoods is massive both as an individual species, and as participating in complex ecologies. In certain geographical regions redwoods may represent a chief commodity for various industries and local communities. For others, who may have never even stood in the presence of the actual tree, the redwood may be a symbol of contemporary conservation struggles, and bourgeoning environmental awareness. While some may argue that there is a shortage of redwoods, there is no shortage of meanings for *redwood*.

Language allows us to be equally adept at referring to external objects as well as features of language themselves in diverse and often times circular reference. This commutability of language is perhaps then best understood by moving past the linear, or "label" theory of reference where words are labels for things. There is more to meaning than merely referential meaning. As Frege noted, there is a mentally interpreted "sense" that comes from a word or phrase in addition to that word or phrase having a corresponding "reference" in the world.[74] Words in language have sense and meaning not so much by being attached to things but by being part of a set of meaning conventions. This is especially true when it comes to the meanings of

[74] Gottlob Frege, "On Sense and Reference" (*Veber Sinn und Bedeutung*, 1892), trans. Daniel Kolak, in *The Mayfield Anthology of Western Philosophy* (Mountain View, Calif.: Mayfield Publishing Company, 1998), pp. 990-998.

concepts and ideas. For example, an approach employing a label theory of language to capture the meaning of the concept, *nature*, quickly proves inadequate. Inadequate not because the term *nature* is an uncommon reference. In fact, it is quite commonly heard in everyday phrases such as, "Mother nature," or in praising statements of "natural beauty." The label theory is inadequate because the term *nature* doesn't actually refer to an agreed upon criteria and certainly not a discrete entity. *Nature*, the noun and *natural* the adjective, embody complicated and often times contradictory ideas, yet it is not without meaning. It's just that the meaning of *nature* is dependent upon conventions, cultural-historical contexts, and linguistic interpretations.[75] A linear version of language has a difficult enough time handling the meaning of simple word-reference relationships, but it is completely incapable of capturing the complexities of the often invoked word-reference circularity that occurs with terms having the long and complicated cultural ideas. As William Cronon notes, "… the objects and creatures and landscapes we label as 'natural' are in fact deeply entangled with the words and images we use to describe them."[76] Cronon here is acknowledging that rather than *nature* being understood as merely a lexical item representing an entity or aspect of the material world, the understood meaning of *nature* functions in a complicated historically-charged standing-for relationship to other words, images, sounds, and objects—all of which can be understood as participating in the idea of *nature*. As such, *nature* is a problem which revolves around concepts and ideas, and accordingly requires something stronger than the discovery that having a concept is the ability to use words. It requires the notion that one can do something with words, and that this activity is capable of analysis.

[75] I treat this notion in depth in the second chapter of this text, but for now it suffices to say that meaning is determined based on the belonging to an organized, yet conventional sequence of other signs, be they words, images, sounds, or objects.

[76] William Cronon, *Uncommon Ground: Rethinking the Human Place in Nature* (New York: W.W. Norton & Company, 1996), p. 20.

A more satisfactory understanding of language and its influence upon our species comes by seeing the linguistic process of reference as not so much derived from word-object relationships, but as functioning within a larger system of signs. Rather than viewing the function of language as analogous to a passive medium used to connect the world with words which we then transfer from speaker to hearer, language functions in the much larger and pervasive arena of signs.[77] As signs, the standard word-object relationships continue to function in modes of denoting, but signs are never purely denotative in that they lack connotation. Moreover, signs do not just convey meanings; they constitute a medium in which meanings are constructed. Thus, language in all its enormity—words, ideas, concepts, speech, reference, abstraction, and arbitrariness—operates alongside images, sounds, objects and gestures, all of which function within the domain of signs. The simplistic correspondence view of language as a passive medium that either (1) provides names for thoughts that exist independently, or (2) translates the world into words fails precisely for the same reason that no theory of meaning overcomes the possibility of vagueness.[78] The notion of meaning is ultimately anchored in that of understanding, and understanding is not passively absorbed but arises only through the active process of interpretation.

In summary, let me make myself perfectly clear by recapping the previous arguments and by clarifying what I am proposing henceforth: I propose that the way human language differs is the extent to which it is an integral function of our cognitive representational system. Starting with the differences between animal communication and human language, then by examining

[77] While many forms of animal communication are said to be symbolic in signification, they are largely iconic: the relation between the message expressed and the form of expressing it is straightforward and transparent. For example, gnashing of teeth and growling indicates aggression, whereas lowering one's head or presenting the rump indicates submission. The reverse relationship, however, is never found (e.g., the gnashing of teeth never indicates submission). As I show in later sections, iconic symbolism is just one of many forms of signification available to humans. Vervet calls are not iconic: they bear no relation to any noises made by predators, or any other feature of predators. They may be said to be symbolic of a sign of warning, but this presents difficulty in that their warning calls do not have the option of being interpreted variously.

[78] William P. Alston, *Philosophy of Language, Foundations of Philosophy Series* (Englewood Cliffs, N.J.: Prentice Hall Inc., 1964), pp. 84-96.

differences in referential abilities and meaning, I have developed the idea that language is (1) a mediating process that occurs when processing the phenomena of physical events and the discourse that may accompany such phenomena, and is unique to our species in terms of our range of meaning and interpretive responses. My most recent argument, and my second claim here, which is elaborated upon in the following chapter, refers to (2) the process of *signification* as simply a co-occurrence accompanying human language. Signification is not anything on top of, or in addition to language, but rather a "standing-for" process of that occurs as part and parcel of language. Signification is requisite of language. As such, I agree with the developing consensus among environmental philosophers that language must be taken seriously both in terms of it being unique to our species and in its effect on our relationships with the environment. What I have hoped to show in addition, however, is *why* it must be taken seriously. As functioning within a system of signs, the consequence of language is that, at one and the same time, it facilitates our engagement with the world and progressively distances us from it simply by virtue of our neuro-linguistic properties. In terms of language, we are not just plain members and citizens of the environment. Language and its accompanying agency carries with it an additional responsibility to take seriously the consequences of our language use and its effects. Only when paying close attention to language, both in its function and effects will we be better equipped to understand the way we negotiate environmental relationships and recognize the implications that language has on that process.

Although I elaborate further on the process of signification in the next chapter, I hasten to add here that by subjecting environmental relationships to the tools of semiotic analysis, I am by no means reducing the materiality of the environment to pure mental events. Acknowledging the mediation of signs need not involve a denial of external reality. The "things" of reality may exist

independently of signs we know those things only through the mediating work of signs and the coded meaning interpreted from them. An epistemological analysis of the environment as a sub-species of semiotics is not a claim that environmental relations are only a process of signification, but rather an indication that the formation of those relations can be productively understood from a semiotic point of view. If we want to understand values and the way we go about establishing those values it is precisely the evocative work of signification that we need to recognize and analyze. The process of meaning making and how culturally instituted models are transformed into mental representations must remain at or near the center of such analysis. Viewed this way, semiotic analysis is not an end in itself, nor does it by itself, dissolve the problems of environmental philosophy. Even if we are not given "linguistic" solutions by studying environmental problems semiotically, its fundamental mechanisms can be clarified thus providing a greater understanding about them.

CHAPTER III

A SEMIOTIC TREATMENT OF THE SOCIAL CONSTRUCTION OF NATURE

> Those who have no difficulty seeing God as the expression of our human dreams and desires nonetheless have trouble recognizing that in a secular age Nature can offer precisely the same sort of mirror.
>
> —William Cronon, *Uncommon Ground*[79]

Introduction

In analyzing the structure of language as it relates to human behavior, Alfred Korzybski identified the influence that language has on us by saying, "Man's achievements rest on the use of symbols." But despite reported achievements, whatever Korzybski considers those to be, our successful use of symbols doesn't eliminate fundamental confusions; thus, in his most famous phrase, he reminds us, "The map is *not* the territory."[80] It seems obvious enough that the word is *not* the thing; the symbol is *not* the thing symbolized; and so on. It is curious then why such a seemingly trivial remark would be made by such an admired semanticist, not to mention consistently repeated in the works of contemporary linguists and scholars today.[81] Curious and strange, that is, until one looks at how words function within the conventions of language and then as part of a larger system of signs, not as simple labels for objects. Korzybski's warning seems easy enough to follow until we take an honest look at how words entail a type of linguistic agency where they create a reality of their own. With language up on the table, the map and the territory do indeed become easily confused.

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[79] William Cronon, "The Trouble With Wilderness; or, Getting Back to the Wrong Nature," *Uncommon Ground: Rethinking the Human Place in Nature* (New York: W.W. Norton and Company, 1996), p. 80.

[80] Alfred Korzybski, *Science and Sanity: An Introduction to Non-Aristotelian Systems and General Semantics* (Lancaster, Pa.: Science Press Printing Co., 1933).

[81] See N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999), p. 247; Robin Tolmach Lakoff, *The Language War* (Berkeley: University of California Press, 2000), p. 283, n. 1; and S. I. Hayakawa, *Language in Thought and Action*, 5th ed. (New York: Harcourt Brace & Co., 1990), pp. 13-20.

Nowhere is this confusion more evident than among environmental philosophers in the way they have conceptualized the problem of nature. In a variety of guises and methods, the problematic nature of *nature* has led environmental philosophers to reconsider the initial philosophical premises and historical roots that accompany the idea of nature as it is used in informing normative arguments concerning our moral obligation to nonhuman species, ecosystems, or in some cases, nature as a whole. For example, when William Cronon argued that *nature* is a human idea in which the label itself is part of a long and complicated cultural history,[82] certain members of the scholarly community condemned his position as anthropocentric and criticized other positions like it as holding untenable and impotent constructivist positions, clearly an unwanted element in environmental discourse.[83] For the most part, critics of the so-called social construction arguments fretfully avoid grappling with the underlying theory head-on, and as such, are guilty of intellectual dishonesty in that respect. But the guilt of wiley philosophers doesn't excuse the hastily developed arguments of other philosophers. For example, despite Cronon's well-intentioned efforts, he should have known that his brief treatment of the linguistic theory undergirding his position would invite misunderstandings. Consider the following passage:

> We turn [nature] into human *symbols*, using them as repositories for values and meaning which can range from the savage to the sacred. At one moment they can *stand for* nature red in tooth and claw; at another they can seem to be the purest earthly embodiment of sacred nature. What we find in these places cannot help being profoundly influenced by the ideas we bring to them. [84]

[82] Cronon, *Uncommon Ground*, p. 20.

[83] See Kate Soper, *What is Nature? Culture, Politics and the Nonhuman* (Oxford: Blackwell, 1995); and Gary Snyder's accusation against Cronon of "…trying to knock Nature, knock the people who value Nature…," initially quoted from *Wild Earth*, reproduced, "An Environmentalist on a Different Path," *New York Times*, 3 April 1999, "*Arts & Ideas*," p. A15.

[84] Cronon, *Uncommon* Ground, p. 20 (emphasis added).

Cronon's proposal for what is essentially a semiotic analysis of *nature* is anything but obvious. To the semiotically savvy, it may be clear that Cronon is alluding to the fact that language and signification are fundamental mechanisms at work within environmental epistemology, but semiotic theories tend to be complicated and largely misunderstood when used to address matters of epistemology. As such, theories grounded in semiotics are not generally intuitive; nor are they sufficiently persuasive when packaged so lightly.

Unfortunately, the problem of nature has been categorized under the larger penumbra of "social construction" arguments, and in so doing, *nature* has tended to divide philosophers into warring camps. For example, when reading "Nature for Real: Is Nature a Social Contruct?" by Holmes Rolston, III, one is left with the impression that constructivists' arguments not only take a linguistic (wrong) turn, but "threaten to capture us in a web of words from which we are powerless to escape."[85] Other than inviting conflict, such reactive statements do little to foster a deeper understanding of how *nature* involves linguistic implications or how the constructivist's inquiry into *nature* hinders the actual project of protecting nature.

In this chapter, I expose this conflict by juxtaposing Rolston's position in "Nature for Real: Is Nature a Social Construct?" with an actual semiotic analysis of *nature* (as promised in the previous chapter). It has been noted that Rolston actually holds a rather nuanced position as a moral realist rather than simply resorting to an environmental version of Cartesian epistemological objectivity.[86] Nevertheless, while his presentation may lack the nuanced character of his overall position, in the first part, I argue that Rolston's anti-constructivist stance in "Nature for Real" is a mixture of his objectivist tendencies and a result of misunderstanding or

[85] Holmes Rolston, III, "Nature for Real: Is Nature a Social Construct?" *The Philosophy of the Environment*, ed. T.D.J. Chappell (Edinburgh: Edinburgh University Press, 1997), p. 58.

[86] See Christopher Preston's, "Epistemology and Intrinsic Values: Norton and Callicott's Critiques of Rolston," *Environmental Ethics* 20 (1998): 409-428

refusing to acknowledge the constructivist's emphasis on the inevitability of human and linguistic factors inherent in the production of knowledge and values. A richer understanding of the problem of nature can be gained and many misconceptions avoided by attending to the actual grounding tenets of constructivism, namely, semiotics. In the next section I demonstrate that the main thrust behind Rolston's position is that he finds the constructivist's project wrongheaded because it emphasizes the social and therefore subjective elements of language, categories, and historical representations. This emphasis on subjectivity, according to Rolston, seriously undermines the legitimate business of locating objective reasons for grounding nature's moral status. While Rolston is undoubtedly genuinely interested in defending the sources of natural value, his evaluation of constructivism is as hasty as it is mistaken. Constructivists are equally concerned with defending *nature*, but I argue that the constructivist's emphasis on language is actually a different and non-competing approach to a different sort of philosophical problem from Rolston's. Since constructivists seek to answer different questions, Rolston's claim that it detracts from the establishment of securing environmental values is misplaced. Nonetheless, Rolston's critique of constructivism is a common one among philosophical positions that align themselves against the postmodern strains within environmental philosophy. Rolston's misplaced concern sufficiently shows the need for richer understanding of the roots of constructivism, namely semiotics. Therefore, in the third section, I present semiotics in more detail to show how Rolston's critique of constructivism is in part based on a misunderstanding of language that includes mistaking the semiotic concept of language's arbitrariness for the ontological arbitrariness of actual entities. In the third part, I elaborate upon the sign *nature* utilizing the tools of semiotics, and extol the methodology of how semiotics shines some well-needed light upon the problem of nature. I conclude by arguing that when one is willing to entertain the idea

of *nature* as a sign vehicle, *nature* avoids the inherent epistemological quandaries by showing that it participates in both the subjective and objective realms. However, since *nature* is a product of both realms, we are unable to unreflectively draw upon nature to objectively ground our moral behavior. While *nature* can inspire our moral motivations as individuals and societies, *nature* as an environmental ethic can never show us the way. Thus, rather than presenting semiotics as the savior of the day, I simply hope that this chapter adds to the present discourse by filling in some of the blind spots that semiotics is capable of filling.

Rolston and Constructivism

In his article, "Nature for Real: Is Nature a Social Construct," Rolston finds the idea of nature as a social construction philosophically troublesome and a setback towards establishing a firm environmental ethic. The prospect of nature as a social construction is for Rolston tantamount to denying the ability to have knowledge of the world.[87] In general, Rolston certainly has good reasons for having environmental trepidations, and no doubt equally good intentions behind his concerns about constructivism. In this section, however, I argue that constructivism does not warrant such worries, at least in the way Rolston thinks it does. I show that Rolston's concerns are misplaced and a result of confusing the way constructivists problematize our *access* to the world with problematizing the *reality* of the world. Where constructivists want to emphasize the way *nature* functions linguistically, Rolston considers such endeavors dangerously tangential to the task of securing the values of nature.

Denial of having access to knowledge is an obvious problem for Rolston, he explains: "After all, the less we really know about nature, the less we can or ought to save nature for what it is in itself, intrinsically. We cannot value what we do not to some degree correctly know."[88]

[87] Rolston, "Nature for Real," pp. 39-63.
[88] Ibid.," p. 40.

Without a firm epistemological grip, positions defending values have little more credibility than he-said she-said arguments. It's a slippery slope from epistemology to values, and as values go, so goes the world, Rolston would likely insist. His worst fear is the dystopia of a Rortrian "World Well Lost," and he's not about to stand by and let that happen.[89] To avoid this from happening, he defines the lay of the land by erecting an epistemological fence row in his philosophical world, and no straddlers are allowed—you are either on one side or the other, culture or nature. Rolston places constructivists, neo-pragmatists, and poststructuralists on the cultural side, and himself on nature's side.

Rolston's epistemological concerns here can be traced back to one of the central tensions between the two general world views of the natural sciences and the social sciences. The friction can be dated back to Leibniz and Locke and have conceptual roots which go back further to Plato and Aristotle where we find the theme of nature versus culture rearing its head again.[90] In general terms, the natural sciences hold that nature has an irreducible reality outside human interpretation, whereas the social sciences argue that our knowledge of reality always comes to us through various filters. Amid the tensions between the natural and the social sciences, the differences are often in terms of ontology and epistemology, along with a few remarks on language. The extent to which language participates ontologically or epistemologically is a constant source of dispute between the natural and social sciences, and seems to be the main point of contention for Rolston.

[89] Rolston is here referring to Richard Rorty, "World Well Lost," in *Consequences of Pragmatism* (Minneapolis: University of Minnesota Press, 1982), pp. 3-18. Contrary to the titular sound of the chapter, Rorty bemoans not the world as an entity, but rather the way coherence and correspondence theories use "the world" to support metaphysical positions of realism and idealism. Rorty finds both coherence and correspondence theories noncompeting and ultimately trivial assertions.

[90] Ian Hacking, *The Social Construction of What?* (Cambridge: Harvard University Press, 1999), pp. 84-91.

Rolston tries to guard us against the constructivists by saying that behind metaphysics, language, concepts, labels, and categories a "real" objective world is there with critters and entities in it, some of whom have interests of their own. Rolston is careful, however, to position himself at odds with "naïve realists" by acknowledging language's superficial contribution: remarking that the world neither comes structured in facts nor is it uniquely labeled for our edification. He clarifies by arguing that the flora and fauna are what allow our concepts and labels to exist, function, and make sense in the first place. In summarizing his tack in defending *nature*, he begins to lay out his reasons for opposing the constructivist's position. Rolston states:

> The word 'nature' arises in our language, constructed by humans, because we need a container matching this world that contains all these myriads of creatures and phenomena we encounter, lions and five million other species, and mountains, rivers and ecosystems.[91]
>
> 'Nature', if a category ('bucket') we have constructed, has real members, that is, things that got there on their own in this world-container, and remain there independently of our vocabulary.[92]

Rolston emphasizes that although the mind and language provide the categories we use to carve up the world, this does not mean that the world exists only in the mind and language.

While Rolston admits that language is an inevitable aspect of cognition, and so, of course, is employed to convey notions of value, he is nevertheless critical of the constructivist's method because he finds it incapable of formulating an ethical theory since it focuses on the subjective elements contained in language, categories, and historical representations. The emphasis on subjectivity undermines the legitimate business of locating objective reasons for grounding nature's moral status. The "real" nature, according to Rolston is lost amid speculative, abstract thinking. Rolston remarks:

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[91] Rolston, "Nature for Real," p. 43.
[92] Ibid.

> So there is an epistemological crisis in our philosophical culture, which, on some readings, can seem to have reached consummate sophistication and, the next moment, can reveal debilitating failure of nerve.[93]

As current epistemology goes, Rolston finds it weak in that it is "unable to test either its facts or its values against an external world."[94] What we need is an epistemological grip that allows us to hold on and avoid falling to the whims of "ambiguous social projections."[95] Even though epistemology is in shambles, according to Rolston, he is not interested in procuring a theory of knowledge as an end in itself. A better epistemology for Rolston is a means to an end, an end in which value can reside in the world free from our culturally-bound minds.

Rolston's rejection of constructivism stems from his disenchantment to postmodern perspectives that continue to emphasize social and cultural factors over the physical environment. The arch nemesis among environmental philosophers during the seminal phases of the movement was anthropocentrism: the human-centered approach to all things. Traditional philosophical approaches to ethical concerns were focused on us: the morality of inter-human behavior. By and large, philosophy failed to consider the environment and nonhuman species as participants in the moral equation. Environmental ethics, the academic subfield of philosophy, set out to change all that and has devoted itself to answering the question of whether we have moral obligations to nonhuman animals, plants, landscapes, and waterways. The environmental crisis was a crisis of ideas, and those ideas were rooted in our ideology, religion, and philosophy. They all failed, in their own particular way, to factor in the world outside of our skins. To his credit, Rolston is an ardent watchdog on the lookout for when philosophy, environmentally oriented or otherwise, takes a dangerous anthropocentric turn, because, as he explains it, "…the

[93] Ibid., p. 40.
[94] Ibid., p. 62.
[95] Ibid., p. 41.

appropriate behavior for humans, faced with ethical decisions here, often involves knowing what good there is in other lives, and remains there when humans face in other directions."[96]

Constructivism for Rolston is overly concerned with the subjectivity of culture and values, and thus, impossibly anthropocentric. Rolston's contention is that we must ground a theory not on us, but on something external to us, and at some point, as with all theories, on an essential property or ultimate principle in which to plant theoretical roots. Rolston's allegiance to nature is that he believes he can erect epistemological foundations upon *nature* in some respect. The task of constructing firm foundations upon which an ethical theory must be built requires the objectivity that can only be found by turning away from anthropocentrism.

Rolston's concerns are undoubtedly founded in good intentions, but nevertheless are strongly misplaced. Part of Rolston's argument is that he simply wants some symmetry in philosophy. As he sees it, although nature is a human concept, and those representations are ours, they are representations of things outside of us. Rolston reminds us that philosophy is a symmetrical endeavor, and we must realize that, "Life is a skin-out affair as much as a skin-in affair,"[97] Rolston here charges the constructivists with shifting the philosophical focus away from "real" nature, a skin-out affair, and on the idea of *nature*, a skin-in affair, and thereby foregrounding the human element and advancing relativism. He defends these charges in the following way:

> Nature may not be a given as the naïve realists suppose; but, upon finding this out, we make an equally naïve mistake to think that nature is not given at all.[98]

> Social construction is necessary but not sufficient for our being. Some values on Earth are not species-specific to Homo sapiens.[99]

[96] Ibid., p. 62.
[97] Ibid., p. 45.
[98] Ibid., p. 62.
[99] Ibid.

Unfortunately, Rolston makes rather ambiguous assertions about values without establishing an argument or engaging in the actual issues presented by constructivism. In his anxiety, Rolston feels he must reaffirm that the world is indeed there, but offers no examples of how constructivists deny the existence of the world. The reason he gives no examples is because constructivists do not say that the world is "not given at all."

For example, Peter Quigley defends constructivism against the charges that it renders nature immaterial by insisting that "the world is quite material and *there*, and has meaning for us. The difference is that materiality comes in a context…."[100] Indeed, constructivists believe that the world is quite real, material, and exists entirely independent of our opinion about it. Furthermore, they would affirm that its existence has vital meaning to us, and I would add, has meaning in some fashion to the nonhuman others. Constructivists are even thought to question reality itself. Bruno Latour relates part of a conversation with an interlocutor and writes:

> "I have a question for you," he said, taking out of his pocket a crumpled piece of paper on which he had scribbled a few key words. He took a breath: "Do you believe in reality?" "But of course!" I laughed. "What a question! Is reality something we have to believe in?"[101]

Constructivists do not deny that the world or reality exists. What constructivists do deny is that the world is "given" to us directly or in any unmediated form other than materially. As linguistic and semiotic creatures, we cannot help but divide up and establish modes of reality. The meaning of those divisions are, in one sense, determined by their relations among other terms, and in another sense dependent upon material constraints.

Any meaningful use of the term *nature*, by virtue of it being meaningful, is an acknowledgment in some sense of the materiality of the world. However, the world doesn't come

[100] Peter Quigley, "Nature as Dangerous Space," *Discourses of the Environment*, ed. Eric Darier (Malden, Massachusetts: Blackwell Publishers, 1999), p. 196

[101] Bruno Latour, *Pandora's Hope: Essays on the Reality of Science Studies* (Cambridge: Harvard University Press, 1999), p. 1.

to us pre-packaged in parcels of meaning, knowledge, or value. The moment we engage language and divide up the materiality in terms of bugs, dirt, buzzards, bears, and so on, they are now framed in discrete categories, and culturally loaded with meaning. What constructivists insist is that we never make direct, uncomplicated contact with the materiality of nature as pure, unsullied, uncategorized material. Peter Quigley defending constructivism states:

> … [M]ateriality comes in a context, an interpretation, an interest, and the meaning is irretrievably charged with psychological, cultural and political significance: and there is no relief from this.[102]

Therefore, determining value is inextricably a function of representation and mediation, and language is the engine that makes value possible. It makes no sense to constructivists to say that something has meaning or value independent of language or perception.[103] Rolston is critiquing the constructivist's project of casting doubt on a literal meaning of *nature*, and thereby highlighting the complex and ambiguous uses of the term. But there is no literal meaning of *nature*.

In analyzing the sociolinguistic and historically contingent uses of *nature*, the constructivists are not creating this condition; they are simply acknowledging that in addition to its physical facts, *nature* is also a social fact. One might even say that the project for constructivists takes off where the physical sciences stop; they confront the elements of the human apparatus inherent in the production of knowledge. What is important to understand is that the appearance of inconsistency presented by Rolston between his views and constructivism stems from the fact that he fails to see that they can be construed as non-competing approaches to different questions, rather than competing answers to the same question. Rolston's oversight

[102] Quigley, "Nature as Dangerous Space," p. 196
[103] I include in "perception" not only physical encounters, but thoughts as well.

seems to relegate other philosophical approaches as useless distractions despite the merits of their insight.

Constructivists are merely sensitive to the ability of language to shape claims of knowledge and how those claims in turn affect ethical theories and practice. In his haste, Rolston confuses the constructivist's method of critique with engineering the problem itself.[104] It simply does not follow that by recognizing the human elements in *nature* and scrutinizing the sociolinguistic history of *nature* that we are thereby valuing culture over nature or humans over nonhumans. On the contrary, as I argued in the previous chapter, language is contiguous with cognition and it facilitates a kind of distancing-connecting effect between us and the world. The questions we must ask about *nature* then must be in part questions about language. It is precisely the reason that nature is valuable that we must reconsider the part language plays in forming those values. Environmental historian William Cronon also defends such efforts from the charges of anti-environmentalism:

> By now I hope it is clear that my criticism is not directed at wild nature per se, or even at efforts to set aside large tracts of wild land, but rather at the specific habits of thinking that follow from this complex cultural construction called wilderness. It is not the things we label as wilderness that are the problem—for nonhuman nature and large tracts of the natural world do deserve protection—but rather what we ourselves mean when we use that label.[105]

What is simply occurring is that constructivists emphasize precisely what Rolston wants to downplay; namely, the ability of language to shape knowledge and practice. However, in his effort to deemphasize the way language participates in epistemology, Rolston misses much of

[104] This is an all too common retort to postmodernism among environmental philosophers. See Paul Shepard, "Virtually Hunting Reality in Forests of Simulacra," *Reinventing Nature? Responses to Postmodern Deconstruction*, eds. Michael E. Soulé and Gary Lease (Washington, D.C.: Island Press, 1995), pp. 17-27.

[105] Cronon, "The Trouble With Wilderness; or, Getting Back to the Wrong Nature," *Uncommon Ground: Rethinking the Human Place in Nature* (New York: W.W. Norton, 1995), p. 81.

what semiotics has to say about *nature* and inadvertently discourages a valuable, albeit different, route to a richer understanding of the philosophical problems it faces.

Semiotics and the Mapping of Nature

In the next section, I begin by showing that Rolston's dualist assumptions in "Nature for Real," prohibit him from accepting language as having epistemological implications on the nature of *nature*. Rolston's position reveals either an ignorance or a misunderstanding of language which further undermines his concept of *nature* and his critique of constructivism. To clarify how language functions in establishing modes of knowledge, I go on to provide a variety of detailed examples of the process of semiotics as it pertains to the concept, *nature*. I expand upon the implications that follow from the main tenet of semiotics; namely, that *signs* constitute a medium in which meanings are constructed. In the previous section, I argued that Rolston's contention that *meaning* and *construction* amount to philosophical playthings. In this section, however, I argue that Rolston's fear of losing the "real" world amid language-games is only possible by ignoring Saussure's his notion of the *arbitrariness* of language. True, semiotics doesn't give us prose on the majestic forms of nature, but it does explain that the sign *nature*, in all its guises, is the conceptual component necessary in making the materiality of the world knowable. Semiotics illuminates the way that language, as participating in the vast arena of signs, is actually a complex mediating process whereby the world is actively cut up, both in relation to the meanings we ascribe to the various concepts, ideas, and words, and in relation to the physical materiality to which they refer. In other words, signs are not a passive element relaying the given facts of the world. They are an active medium where meaning itself is constructed. I conclude, therefore, that as a sign *nature* can be understood as a motivating moral

force, but is problematic if used as an source of environmental values that establishes objective moral grounds for behavior.

Rolston's Nature

Despite the issues raised by constructivists, Rolston urges us to turn our attention to "real" nature and remains epistemologically planted on the side of nature. Trying to sort out Rolston's epistemological position, however, is not an easy task. Rolston uses three notions of *nature* to defend his position: (1) *nature* is the world as it is independent of what any person happens to believe about it. (2) *Nature* is a place where objects reside and have value and interests of their own that can be defended based upon the fact that they exist in *nature*. (3) In order to defend objective value *nature* is the carrier of values. [106]

In the first sense, the fact that *nature* is the world is trivially true in that to oppose this view would be to deny the existence of an "out there." Rhetorically, however, it pits our perceptions of the world against the natural world that exists objectively, or the "real" world as Rolston often says. In the second sense, *nature* as place appears to serve as a ground upon which values can be defended. But upon closer inspection, nature is again simply a synonym for the world, or what is "out there." It is possible to defend an argument valuing things based on their properties and interests, but that is different from saying that we ought to value something based on its existence.

According to the third view, *nature* as precursor of value is descriptively objective as described by the natural sciences. Rolston recommends that we "release some realms of value from our subject-minds and locate these instead out there in the world…."[107] According to this view, the fact that we experience various values in nature, and the values are not just in the

[106] Rolston, "Values in Nature" *Environmental Ethics* 3 (1981): 113-128; Rolston, *Environmental Ethics: Duties to and Values in the Natural World* (Philadelphia: Temple University Press, 1988), p. 4.
[107] Rolston, "Nature for Real," p. 62.

experience, means that values therefore must exist in nature independent of our valuing. This argument is, of course, predicated on a subject/object dichotomy in which value must reside either in the subject doing the valuing or in the object of value. Rolston's most egregious error comes when he claims to have established the immediacy of scientific facts and says that the sciences that discover them are epistemologically prior to values. In other words, Rolston fails to see science itself as a social practice immersed in subjective evaluations in which its theories and descriptions are cast in value-laden, metaphoric characterizations.[108]

The way Rolston uses all three senses of nature is misleading in that they are all framed within a dualistic epistemology. It's misleading because dualism itself is a mediating act that frames the world in a particular way: reality is composed of the fixed ends of knowing subjects and knowable objects. At the same time, however, dualism is blind to its own predicament. The philosophical presuppositions in dualism precludes it from recognizing itself as engaging a set of values that carves up the world in a particular way.[109] Objectivism, then, is not a particular version of the world; it's the way the world is.

By grounding values in *nature*, Rolston must demonstrate more than the obvious fact that *nature* exists as something "out there" as he does in (1) *nature* is the world and (2) *nature* as place. Articulations of value are assertions of positive identities in addition to the quality of existing. But acknowledging them in this way would force Rolston to admit that values are derived from socially mediated conceptions which give them their very form and content. In (3) *nature* as precursor of value, Rolston seeks shelter for nature in the objectivity of the sciences, but the sciences can offer no guarantees of value-neutral observations or culture-free descriptions

[108] See Bruno Latour, "Circulating Reference: Sampling the Soil in the Amazon Forest," *Pandora's Hope: Essays on the Reality of Science Studies* (Cambridge: Harvard University Press, 1999), pp. 24-79.

[109] We have evidence of Rolston's inability to conceptualize the problem outside of dualistic constraints when he states in "Nature for Real: Is Nature a Social Construct?" that "The objectivity myth, so alleged, is replaced by a subjectivity (or inner-subjectivity) myth" (p. 62).

of the world. The transition from a formless-material Earth to scientific "facts" are always embedded in the practice of long sequences of semiotic-material productions and ontological transformations, which means that both the theories and the descriptions resulting from those theories are best understood as social products rather than words corresponding to things.[110] How is Rolston then able to know nature objectivity? Is he claiming to speak for nature as it is in itself, or is Rolston articulating notions of value but somehow able to circumvent sociolinguistic filters in doing so? The epistemological trap Rolston sets for himself is as much a dilemma of epistemological dualism as it is a denial of language's agency in shaping knowledge. Access to nature as it is in itself is an incoherent concept; and objective unmediated assertions of value are impossible since values are predicated on representations involving sociolinguistic constraints.[111]

The problem with Rolston's objective approach to knowledge of nature is not so much that it fails to mirror nature's reality, and thus never provides a true anchor for an environmental theory; rather, it fails because the term *nature* itself is hopelessly semiotically charged. The problem with *nature*, as much as one may be attracted to such a vision, is that access to it is already lost to semiotic and ideological procedures which mediate its status. As semiotics suggests, there is no sign which is neutral or devoid of meaning. There is nothing in physical nature in itself that can help us adjudicate among alternative meanings of the term. It turns out that *nature* merely serves as the mirror onto which Rolston projects the semantic ideation he wishes to see.

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[110] Ian Hacking, *Representing and Intervening: Introductory Topics in the Philosophy of Natural Science* (Cambridge: Cambridge University Press, 1983), pp. 130-146; Donna Haraway, *How like a Leaf: An Interview with Thyzra Nichols Goodeve* (New York: Routledge, 2000), pp. 24-25.

[111] However, just because all perspectives are mediated forms of experience, we need not deny that nature can have value simply because we are doing the valuing. What can be denied, however, is objective knowledge of *nature* if by that we are claiming to have direct unmediated knowledge of it. Without acknowledging that the idea of *nature* invokes certain cultural, historical, and personal valuations, an ethical theory based on *nature* comes across as environmental fundamentalism where our moral choices are made for us by the arbiter of *nature*.

Saussure and Peirce

In analyzing *nature*, constructivists draw upon the epistemological insights provided by Ferdinand de Saussure, Charles Sanders Peirce, and other linguists in developing various challenges to the notion of nature-as-given. Semiotics does not directly address *why* we define such concepts as *nature* the way we do, environmental historians provide that analysis. What semiotics provides is the reason to take the historians' work seriously, namely, *how* we define the external world as *nature* in the first place. In fact, criticisms that engage language and history in efforts to show the problems with claiming objective or neutral representation of nature have their roots in semiotics.

Saussure's notion of the arbitrariness of language is particularly helpful in cutting through the confusion associated with the Rolston's claim of losing the "real" world in our pursuit of understanding the function of language. Peirce, for his part, expands upon Saussure's model and provides a complex explanation of the process of signification. It is Peirce's model which is particularly useful in understanding *nature* as a sign.

In general terms, semiotics, the project of the study of signs, has been to overcome the notion that language is a passive medium of representation. Signs, linguists tell us, whether they be words, concepts, objects, images, or sounds, do not convey meanings as given facts of the universe. Signs constitute a medium in which meanings are constructed. Semiotics confronts the epistemological suppositions that knowledge and meaning are external to us and simply transmitted via the window of language. Poststructuralists, neo-pragmatists and constructivists typically draw upon the works of Saussure and Peirce to inform their philosophical positions. Saussure and Peirce are traditionally credited with creating the first two well-developed models of semiotics and each model contributes to undermining objective epistemological theories. In

tribute to Saussure and Peirce who came nearly three decades before him, Wittgenstein sums up the basic project of semiotics as an attempt to overcome the problems of correspondence theories of meaning. Wittgenstein states:

> The mistake we are liable to make could be expressed thus: We are looking for the use of a sign, but we look for it as though it were an object *co-existing* with the sign. (One of the reasons for this mistake is again that we are looking for a "thing corresponding to a substantive.")[112]

Saussure in his dyadic model of signification rejects the notion that words simply reflect ideas and the inherent shape of the world with an argument diagnosing two ways in which linguistic signs are arbitrary. First, the particular phonetic shape of a word is arbitrary. For example, the concept *leopard* in English could be otherwise signaled. The particular idea and sound could have been signaled by any other combination of sounds without changing the meaning of *leopard*. In this sense, there is no reason external to language necessitating the connection between the sound and the idea. Second, and perhaps most importantly, the concept *leopard* itself is an arbitrary creation of language and does not necessarily exist outside of language. *Leopard* is arbitrary in the way it is a concept. Language cuts up and organizes the world, but there is nothing in the world that requires our language to include, say, both the abstract category *feline* and the individual noun *leopard*. It is possible to imagine a language that only has concrete nouns such as *leopard*, *cougar*, *jaguar*, etc., but without the abstract category *feline*. Would such a language be defective in that it fails to reflect reality? No, because the facts of reality are infinitely variable, and language must organize but it would be impossible to have one word for each new fact. This is not to say that there are no material markers that help us divide the world at the joints. [113] Nonetheless, the process of reducing an infinite world of

[112] Ludwig Wittgenstein, *The Blue and Brown Books* (New York: Basil Blackwell, 1958), p. 5.
[113] Many thanks to J. Baird Callicott with regard to this point.

possible facts into a finite vocabulary is in a sense arbitrary, and thus the concepts and categories have an element of arbitrariness too.

It is this last notion of Saussure's arbitrariness that seems to make such philosophers as Rolston uneasy. Rolston seems to think that the arbitrariness of the sign *leopard* renders the animal itself arbitrary, that is, contingent upon language. To demonstrate Rolston's misconception, consider a series of words used to represent the temperature of water.[114] When we use the words *cold*, *warm*, *hot*, and *scalding*, we are simplifying the full spectrum of temperature. Warm water is, then, in one sense not a fact of nature; it represents instead a decision by language to cut up the spectrum in a particular, arbitrary way. There is no concept *warmness* outside of language, and the meaning of the word derives not primarily from its reflecting reality but rather from its place in the system of terms, for example, differentiating *warm* from *hot*. What, then, is the concept of the *warmness* of water? It is a creation of language, a decision on its speakers' part to group together and classify for certain purposes. Water itself does not dictate the choice. The arbitrariness of language dictates the transition point between *cold* and *hot*. The fact that warmness as a concept of the creation of language does not mean that warmness has nothing to do with reality or that references to warmness are only statements about language and deny the world. On the contrary, variations in temperature must exist and be perceptible to allow the contrast between *warm* and *hot* to mean anything. If the words only told us something about language without also telling us what the actual conditions were that made the use of one rather than the other an appropriate use of language, then words could not tell us anything about language either. It works both ways: the word *warm* gives us information about our language only given our recognizing temperature variations. And the word *warm* gives us

[114] This example is a paraphrased version from John M. Ellis, *Against Deconstruction* (Princeton: Princeton University Press, 1989), pp. 46-49.

information about the world only given our ability to understand and use language. It is just as wrong to say that warmth is simply a fact about nature as it is to say that warmth is simply a fact about language.

Saussure's linguistic views don't erase or make the world less real unless one misunderstands Saussure as saying that the sign *leopard* has no natural connection in reality with the material bone and fur leopard. This confusion is caused by conflating his two notions of arbitrariness. Saussure is not so much saying something about the reality of things as he is talking about the lack of any natural connection between the sound and the concept *leopard*. In addition, although terms do not achieve their meaning by corresponding to reality or non-linguistic facts, it does not follow that a sign's meaning is arbitrary in the sense that it can mean anything to anybody.

Rolston's uneasiness with constructivism seems partly due to the way he views *nature* functioning in language. Without careful attention to language, *nature* can seem to exist "in the world" ambiguously in both the subjective and objective realm. For example, in one sense, nature is ontologically subjective. That is, without human subjects, *nature* is not by itself categorized, designated, or distinguished. In this sense, nature has a subjective, and according to Saussure, an arbritrariness to it in that there is nothing in the materiality of the world itself that would designate one thing as natural and another unnatural. In a different sense, *nature* is epistemologically objective. We know that those objects exist "in the world" regardless of our opinion or intervention in the matter.[115] Rolston's worry is that nature's epistemological objectivity is losing ground to its subjectivity because linguistic arguments emphasize the

[115] The terminology is adapted from John R. Searle, *The Construction of Social Reality* (New York: The Free Press, 1995).

subjectivity and, in Saussure's sense, the arbitrarity of concepts. Nothing of the sort actually happens. Nonetheless, Rolston writes:

> All study of nature takes place from within some culture or other; but it does not follow that scientific study is not constrained by the objects it studies external to culture.[116]

While Rolston does in fact acknowledge linguistic implications on epistemology, for some reason he maintains that those like himself who take an "ecological view" avoid the constructivist's erroneous belief that "scientific study is not constrained by the objects it studies external to culture."[117] That Rolston would represent contructivists as believing that the world has no bearing on our linguistic classifications tends to suggest that Rolston has only understood one-half of the Saussure's argument; namely the linguistic half.

What Rolston is confusing is that the ontological subjectivity of nature diminishes nature's epistemological objectivity when they are in fact simply two unavoidable aspects of *nature*. The ontological and epistemological are not in necessary tension; they are compatible aspects of *nature* that make nature knowable. As Daniel Chandler explains it, "While the sign is not determined *extralinguistically* it is subject to *intralinguistic* determination."[118] Saussure's view represents a redefining of the way words relate to the world and not an abolition of that relationship.[119]

Like Saussure, Peirce recognizes the materiality of things but at the same time understands that the idea and meaning of that materiality is not solely produced by the thing. Peirce claims that *all* forms of thought or ideas are essentially transmissions of signs and as such, we can never have knowledge of something in the sense that our knowledge is unshaped by the signs we come to know them by. Things are never known amorphously or have unbounded meaning. An

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[116] Rolston, "Nature for Real," p. 54.
[117] Ibid.
[118] Daniel Chandler, *Semiotics: The Basics* (New York: Routledge, 2002), p. 17.
[119] John M. Ellis, *Against Deconstruction*, p. 48, n. 36.

uncategorized world is unknowable and unshaped knowledge is impossible. Meaning and knowledge are possible through the mediation of signs, yet also constrained by our sociolinguistic conventions. For his part, Peirce was keenly interested in the way meaning was established and he understood the process of signification to occur in a much more complicated fashion that Saussure envisioned.

Take again the example from above. *Warmness* functions in relation to its object of reference in a straightforward manner: it is used to designate having a temperature quality that falls vaguely, but necessarily, between cold and hot and that designation refers directly to any object that can appropriately be designated as such. When it comes to *nature*, it's a different process. The complexity of *nature* in terms of meaning and use is not governed by the same constraints as the meaning of *warmness*. Again, although *warmness* can be applied to a variety of objects (personality, conduct, and colors), as well as temperature, its range of possible meanings is not various; warmness in a tactile or metaphoric sense is the quality of moderate heat juxtaposed between the notions of cold and hot. *Natural* is not a quality located along a continuum between supernatural and artificial; it is contrasted against each of those terms. As a result, nature is a highly complex sign. The complexity of *nature* arises because it simultaneously participates in parallel systems of meaning, and as such, a non-linear matrix of signification.

Peirce considers the process of signification to be more complex than what Saussure's model allows. Whereas Saussure's model of signification consists of the relation between signifier and signified, Peirce's model describes a three-way interaction to produce meaning. Peirce explains:

> A sign, or *representamen*, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person

> an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the *interpretant* of the first sign. The sign stands for something, its *object*. It stands for that object, not in all respects, but in reference to a sort of idea.…[120]

For example, within Peirce's model of the sign, the traffic light for "stop" consists of a red light facing traffic at an intersection (the representamen); vehicles halting (the object); and the idea that a red light indicates that vehicles must stop (the interpretant—not to be confused with the person doing the interpreting). In other words the *representamen*, *object*, and *interpretant* are the means by which the sign signifies. *Signs* participate in a standing-for relation to their *object*; which is determined by the *interpretant*. Anything which can be isolated, then connected to something else and interpreted, can function as a sign.

Signs, for Peirce, function via three different associative relationships: iconic, indexical, and symbolic. Peirce used these terms to describe the nature of the formal relationship between the characteristics of the sign and those of the physical object represented:

> A sign is either an *icon*, an *index*, or a *symbol*. An icon is a sign which would possess the character which renders it significant. Even though its object had no existence; such as a lead-pencil streak as representing a geometrical line. An *index* is a sign which would, at once, lose the character which makes it a sign if its object were removed, but would not lose that character if there were no interpretant. Such, for instance, is a piece of mould with a bullet-hole in it as a sign of a shot; for without the shot there would have been no hole; but there is a hole there, whether anybody has the sense to attribute it to a shot or not. A *symbol* is a sign which would lose the character which renders it a sign if there were no interpretant. Such is any utterance of speech which signifies what it does only by virtue of its being understood to have that signification.[121]

We can, thus, understand signs as participating in at least three types of mediating relationships. Icons are mediated by similarity between sign and object; indices are mediated by some physical or temporal connection between sign and object; and symbols are mediated by

[120] Charles Sanders Peirce, "Logic as Semiotic: The Theory of Signs," in *Philosophical Writings of Peirce*, ed. Justus Buchler (New York: Dover Publications, 1955), p. 99.
[121] Ibid., p. 104.

some formal or agreed-upon link irrespective of any physical characteristics of either sign or object. I show an example of this process at work below.

Two important differences between Peirce's and Saussure's models should be noted. The representamen and interpretant in Peirce's model are similar to Saussure's signifier and signified respectively. However, unlike Saussure's abstract *signified*, Peirce's *object* allocates a place for an objective reality which Saussure's model does not directly feature. Nevertheless, Peirce is no naïve realist, and emphasizes that the dependence of the mode of existence of the thing represented is not solely based on the nature of reality. More importantly though for understanding the function of *nature* as a sign is the special property of Peirce's *interpretant*. The *interpretant* has a quality unlike that of Saussure's *signified* because it can itself be understood as a sign. The interaction within Peirce's triad of signification is neither static nor linear. There is a built-in dynamic to signs. Consider the following image:

Ansel Adams ***Half Dome, Merced River Winter 1938***

In this print by Ansel Adams, the image itself, the *representamen*, is likely first to be an iconic sign in that "its qualities resemble those of that object."[122] For the image first to refer or to relate to the *object* as a sign, however, it must be determined as such by the *interpretant*. The interpretant is simply the thought which renders the object (the image) iconic. As an iconic sign, it can at the same time function as a symbolic sign, perhaps symbolizing the Yosemite National Park. Most importantly, as a sign, it does not stand in a direct relationship with its object because the image will not necessarily produce the same meaning. The image is dynamic since the symbolic guise of the interpretant *Yosemite* enables it to potentially become yet another sign, and *Yosemite* becomes the sign for the next triadic process. Thus, as a symbol, it can in turn, as determined by the interpretant, signify another symbol, perhaps say that of *nature*, and after that perhaps *beauty*, and so on in a unlimited process of signification.[123] This dynamic process whereby signification potentially results in further signification is referred to by Umberto Eco as unlimited semiosis:

> [I]n order to establish what the interpretant of a sign is, it is necessary to name it by means of another sign which in turn has another interpretant to be named by another sign and so on.… Thus the very definition of 'sign' implies a process of unlimited semiosis.[124]

The term *unlimited* is not meant to suggest epistemological relativism in the sense that a *sign vehicle* (Eco's rephrasement of Peirce's *representamen*) can mean whatever anyone wants it to mean, or that all meanings are equally reasonable. The idea of unlimited semiosis refers to the unlimited number of semiotic relationships that can be produced from a sign vehicle. However, unlimited semiosis does not mean that the sign vehicle is unconstrained. On the contrary, sign

[122] Ibid., p. 114.

[123] I should point out that I describe the process much more linear than it likely occurs. This simplification is intentional to clarify the example. The triadic process is much more likely to resemble a web-like structure, or a rapid tree-like bifurcation.

[124] Umberto Eco, *A Theory of Semiotics* (Bloomington, Indiana: Indiana University Press, 1979), pp. 68-69.

vehicles are constrained in the linguistic agreements and social conventions, and not only by obvious material or extralinguistic factors as realists and objectivists would insist.

In fact, Peirce's taxonomy of signs (icon, index, symbol) reflect the limiting mode of relationships between sign vehicles and their referents. Iconic signs, because they are similar to their referents are highly restrictive; whereas a symbol fulfills its function regardless of any similarity or analogy with its object and equally regardless of any factual connection.[125] However, as the above example shows, and as Peirce himself was aware, the three sign types most often in collaboration or in combination and are not necessarily mutually exclusive; there are no pure signs.[126]

Unlimited semiosis, then, indicates the way in which sign vehicles do not have a predetermined route or destination, and that they do not eventually lodge themselves at a final referent. Recall that the first process of signification moved from an image to a word (Adams' print to *Yosemite*); the second round of signification moved from words to an idea (*Yosemite* to *nature*). Signification can equally travel in any direction depending on the *sign vehicle*. For example, a mental image of Adam's print of Half Dome could be the interpretant of the utterance (sign vehicle) *Yosemite*. Likewise, the concept (sign vehicle) *beauty* could be the interpretant of *nature*. Moreover, there is no reason to believe that a sign has a final or complete meaning; rather, it forms a dense matrix of relations within a particular culture. It is so dense in fact that often such concepts as *nature* are considered social facts.

While one can surmise that unlimited semiosis is responsible for the production of an abundant amount of non-linguistic conceptual signs, it is hard to imagine encountering any such transmission of signs that do not have an associated linguistic component, or word sign

[125] Charles Sanders Peirce, cited in Daniel Chandler, *Semiotics: The Basics* (New York: Routledge, 2002), p. 39.

[126] Chandler, *Semiotics*, p. 43.

vehicle.[127] Thus, while *nature* is undoubtedly a sign vehicle, it is simultaneously a linguistic one as well. In other words, meaning is not limited to only linguistic signs. Sounds, images, and so on certainly have meaning. But in the articulation of meaning it seems reasonable to expect that at some point language will be engaged if communication is to be successful.

In sum, both Saussure and Peirce in their own ways contribute to overcoming the problems of epistemology by acknowledging the inevitability of human and linguistic factors present in the production of knowledge, and in particular the knowledge of concepts. By rephrasing the problems of epistemology and the mind in terms of transmission of signs, semiotics begins to break down the inherent obstacles of dualism by taking into account both the subject and object, and by outlining how they contribute to the possibilities and limits of knowledge and meaning.

Nature as an Environmental Ethic

A semiotic analysis of *nature* shows that the concept takes on a much more complex role than one might suspect. The foregrounding of this complexity is often met with reactionary responses of which Rolston's is but one example. Historically, nature has often been tacitly understood as a touchstone by which human behavior can be measured. According to Steven Vogel, the difficulty with relying on *nature* as an ethical guide, however, is that it makes for a poor map. The problem is that *nature* confounds how we define the actions of humans. Vogel states:

> The problem is that neither meaning allows us to distinguish between those human actions that "violate" nature and those that are in some way in "harmony" with it: either we violate it all the time or violations of it are logically impossible.[128]

[127] In addressing this point directly, John R. Searle in *Language and Consciousness* (Cambridge: Cambridge University Press, 2002), p. 139, states, "I do not believe that it is possible to have social facts without language." Later on the same page he concedes rather honestly, "I do not fully understand this feature…."

[128] Vogel, "Environmental Philosophy after the End of Nature," pp. 26-27.

On the map of nature, humans are either included or excluded. If the map includes us, it gives us no normative guide since we are part of nature and our actions are included as natural forces. Off the map, the mere existence of humans is an infringement on the world's naturalness. It's not that we need a better map of nature—the point is that *nature* already exists as a map, which means it has already undergone translations and now only comes packed with history and meaning—there is no clean slate for *nature*. As such, the map becomes a problem if one hopes to "read off from nature a set of ethical maxims for human action."[129] As a map, *nature* and *natural* simply end up projecting culturally loaded conceptions onto a supposedly authentic state of the world, then illegitimately claims to have been grounded there all the while.[130]

With this illegitimacy in mind, "getting back to nature" takes on profound normative difficulties in theory and practice. *Nature* can provide direction for forms of environmental practice, but *nature* as an environmental theory trades on the problematic dualism that Vogel describes. As a dualism, it also has the undesirable effect of undermining instantiations of environmentalism and encouraging an unnecessary conflict between those who value the nonhuman and those who do not. As it is semiotically positioned to contrast against what is artificial, *nature* tends to be a battle to stave off culture, and in its worst forms, becomes misanthropic.[131]

From my remarks, it's clear that I find much to disagree with in Rolston's refutation of the constructivist's project, and the use of nature as ground for an ethical theory. To his credit, Rolston's earlier writings reveal a more nuanced position in which he draws upon nature as a source of natural values, but is also careful to avoid the idea that nature requires us to act in a

[129] Ibid., p. 34.
[130] Ibid., p. 34-35.
[131] Lisa Gerber elaborates on the problem of misanthropy in environmentalism in "What is So Bad about Misanthropy?" *Environmental Ethics* vol. 24 (2002): 41-55.

particular way.[132] In "Nature for Real," Rolston operates in a less sophisticated manner when critiquing the constructivist's position regarding nature. But as much as his critique troublesome, I find a great deal of what Rolston has to say courageous and important. While never completely abandoning theory, Rolston's position is a return to the roots of ecological philosophy and a resistance to human centeredness, as well as a testimony of his indisputable reverence for nature. Ultimately, Rolston's message is that we ought not think of the world as just a store of "stuff" passively available for our consumption and subsequent disposal. There are real things out there such as birds, bugs, whales, fields, and rivers—and they all count. But in what sense can *nature* then serve as the foundation by which to inform the way we negotiate environmental relationships? It is on this point that I happen to cross paths, and at the same time, depart from Rolston. Indeed, nature (in the uncomplicated sense) would be better off if humans made their decisions based on need rather than want. The problem though is that if *nature* isn't meant normatively, how does it function? In other words, where does nature guide us in deciding what to do among possible alternatives? Does *nature* provide a reason for being vegetarian? What does *nature* tell us about hunting? There seems to be something philosophically perverse in devising an ethical theory that impoverishes the possibility of its application.

At some point it is incumbent upon environmental philosophers to consider whether particular approaches offer credible solutions to environmental practices. Too often though, environmental theory reflects the primacy of moral objectivism over more personalized approaches.[133] As such, the legacy of moral objectivism has overshadows the interpretive middle ground and stigmatizes other philosophical projects as too subjective or worse, relativistic. To

[132] See Rolston, "Can and Ought We to Follow Nature?" 1 (1979): 7-30; "Down to Earth: Persons in Natural History," *Environmental Ethics*, pp. 328-354.

[133] In his other works, Rolston himself recognizes the deep need for personalized environmental approaches. See *Environmental Ethics*, pp. 345-354.

the extent that we unreflectively refer to *nature* as the yardstick of human conduct, we reproduce the dualism that sets humanity and nature at opposite poles or trivialize the meaning of *natural*.

In recognizing *nature* as a sign, however, the significance of non-essentialist meanings becomes possible. *Nature* is then unleashed from its dualistic interpretations and can motivate us to act responsibly in traditional ways, but also in original and personalized ways, and in the most unlikely of places. A rigorous defense of environmental values and hopes must include, as one of its tools of analysis, a semiotic approach in order to understand the way environmental ideas circulate in our language. Language is never a window to the world. Ethics is, then, a courageous endeavor requiring thoughtfulness about the world and the words we use to describe it and our relations to it. Cronon defends environmental values in the following way:

> It means never imagining we can flee into a mythical wilderness to escape history and the obligation to take responsibility for our own actions … to live rightly in the world—not just in the garden, not just in the wilderness, but in the home that encompasses them both.[134]

There is a way to think about how social meaning is generated, how it is contoured, raised, given shape, how it is undermined, and what role *nature* plays in such a dynamic. Somewhere in between where nature and culture cross paths, ideas come together in expressions of value and hope. But we can never rely on *nature* itself to show us what those ought to be.

[134] Cronon, *Uncommon Ground,* p. 90.

CHAPTER IV

THE LINGUISTIC PERFORMATIVITY OF NEPA: A SOCIAL CONSTRUCTION OF THE IDENITY OF ENVIRONMENTAL VALUE

> As we think about worlds that might one day become thinkable, sayable, legible, the opening up of the foreclosed and the saying of the unspeakable become part of the very "offense" that must be committed in order to expand the domain of linguistic survival.
>
> —Judith Butler, *Excitable Speech*[135]

Introduction

In the second chapter I argued against a passive theory of language and correspondence theories of meaning by developing the general idea of how the human mind is always actively at work linguistically shaping phenomena, knowledge of the world, and ourselves. In the third chapter, I expanded upon the agency of language by showing how systems of signification are pervasive: functioning at the level of epistemological discourse as well as shaping the subjects who are entangled with the semiotic forces that produce them. Semiotics, I argued, demonstrates that words are not part of an inevitable framework nor windows to the world, but rather are produced in discourse that relies on historical and material presuppositions which give them their content and form. In this chapter, I expand upon the idea of language and agency by looking at how environmental values are linguistically organized and constituted through social practices. I start with the idea that human experience is framed and interpreted through a vast matrix of mental representations and conceptual frameworks that function at individual, cultural, and socio-institutional levels. Values are interpretive practices by persons, groups, or societies and may differ greatly from each other depending on modes of discursive practices. Nevertheless, through the "ritualized repetition" of value language, particular themes produce a "domain of

[135] Judith Butler, *Excitable Speech: A Politics of the Performative* (New York: Routledge, 1997), p. 41.

possibility" which creates their own stability even though it may in fact have distorting effects on the situation.[136] In other words, themes can become so rigidly ossified either within an individual or culture that we are seemingly unable to compare particular narratives against other possible accounts, or evaluate their implications. Thus, the ways we present or re-present a story, the narratives we employ, and the conceptual framing of that story, are exceedingly important as they affect its content, its moral analysis, and its subsequent evaluation. We must attend to what language does as much as what it says.

I propose that understanding the performative character of language allows for a clearer view of environmental value and better informed environmental decision making. The specific text considered here is the 1970 National Environmental Policy Act (NEPA). Few would deny that NEPA is among the most important pieces of American environmental legislation enacted in the past thirty years. As Lynton K. Caldwell remarks, "Few statutes of the United States are intrinsically more important.… It is well integrated, internally consistent, and flexible … and has significantly modified the environmental behavior of government agencies and, indirectly, of private enterprise."[137] Since enacted in 1970, there has been increasing public concern about environmental issues, and NEPA's preamble seems to reflect those concerns:

> The purposes of this Act are: To declare a national policy which will encourage productivity and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; [and] to enrich the understanding of the ecological systems and natural resources important to the Nation....[138]

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[136] "Ritualized repetition" is borrowed from Judith Butler, *Bodies that Matter: On the Discursive Limits of Sex* (New York: Routledge, 1993), p. x.

[137] Lynton K. Caldwell, "Implementing NEPA: A Non-Technical Political Task," in Ray Clark and Larry Canter, eds., *Environmental Policy and NEPA—Past, Present and Future* (Boca Raton: St. Lucie Press, 1997), pp. 25-26.

[138] Lynton K. Caldwell, "Beyond NEPA: Future Significance of the National Environmental Policy Act," *Harvard Environmental Law Review* 22 (1998): 205.

"Despite its influence," says Caldwell, "NEPA has not come near to realizing its full potential."[139] If NEPA is failing to achieve its intended environmental goals, according to Caldwell, it is not because statutory changes are needed within the policy, but because authorities have failed to support the policy in the first place:

> …implementation of the substantive principles of national policy declared in NEPA requires a degree of political will that has not been evident in either the Congress or the White House…. What has been lacking and what is needed has been the political will to enable NEPA to achieve its declared intent.[140]

Numerous evaluations of NEPA have occurred in recent years, resulting in various assessments, but few have analyzed the policy's actual method of articulating environmental value. For example, Caldwell's critique extends out from the edges of NEPA and looks out to the political process that either enables, or in his estimation, disables the full implementation of the policy. While Caldwell's analysis levels a welcomed criticism against the political processes and entities which hamstring NEPA's potential, his approach also implicitly assumes that NEPA is internally sound. This research, on the other hand, goes in a different direction. Rather than examining the external difficulties that may inhibit NEPA, the object of study here is NEPA itself. I look internally at the structure of discursive systems of NEPA and ask: in what way does NEPA ground its theory of environmental value, and how does this theory inform and affect the articulation of environmental value?

Through the philosophical accounts of language, and in particular speech act theory as first developed by philosophers of language J.L. Austin and John R. Searle, then later expanded upon by Judith Butler, I scrutinize the language of NEPA through the lens of linguistic *performativity*. Performativity has recently been used as tools of analysis in such diverse fields as critical theory,

[139] Ibid., p. 203.
[140] Caldwell, "Implementing NEPA," pp. 26-27.

gender theory, and anthropology, but to my knowledge such an effort in the field of environmental philosophy is unprecedented. The inherent structure of these notable fields is not unlike that of environmental philosophy: at a fundamental level they significantly involve the process of translation. For example, in a very general sense, gender theory seems to be the translation of sexuality through its subject, where it then becomes instantiated, articulated, and reproduced within culture through various means of discourse. In much the same way, the identity of the environment is also subjected to various modes of translation whereby it becomes expressible, understood, and valued.

In the first part of this chapter, I examine the language of NEPA and show that it indeed advocates the management and protection of ecosystems, but it does so from a peculiar mix of theoretical positions that may undermine the very protection it was designed to enact. By examining the NEPA as a process of valuation itself, Caldwell's assertion of NEPA as a "well integrated" policy becomes a problematic claim. My main purpose, however, is not to criticize Caldwell's work; rather, it is meant to expose the philosophical roots at NEPA's foundation and the reasoning process used to establish environmental value. I argue that the articulation of utilitarian value reasoning in NEPA operates beyond a seemingly passive description of environmental value. As a process of describing how we ought to value the environment, NEPA is perhaps best understood, I argue, as a performative speech act: an active process of producing the identity of environmental value, and thus, a social construction of environmental value.

To give a more detailed analysis of how the utilitarian framework of NEPA operates as a performative speech act, I provide an overview of the development of the performative speech act as it has progressed from Austin's original theory. I show that NEPA brings about a state of affairs through its description of environmental value in a "world-to-word" fit in which the

identity of environmental value is shaped by the act in which it is described. My overall argument runs as follows: (1) NEPA adopts a particular philosophical presupposition that enables the use of one type of value theory, while simultaneously usurping other equally justifiable theories; in so doing, (2) NEPA relies on the repetition of a series of metaphorical and literary images which serve to reinforce utilitarianism's normative status in environmental axiology. Thus, while it is an *act*, that is, a legal injunction, and thereby a legal action as a function of having the necessary social authority to do so, NEPA not only communicates a set of ideas, it also enacts its translation of a world-to-word fit in the form of a cultural model of environmental value. The problem is, I argue, that utilitarianism discursively preempts the legitimacy of a multiplicity of ways to value the environment.

In the end, however, the utilitarian value language of NEPA does not foreclose the emergence of new modes of value articulation. As suggested in chapter two, the very possibility of narrative structuring indicates a neuro-linguistic cognitive base.[141] Yet the *content* of those conceptual frameworks are subject to social conventions. Conceptual frameworks should not be understood as primarily a means to censure other points of view, but rather as concomitant with the function of language itself: frameworks provide a series of enabling constraints that provide structure and form as a means to arrange and understand. But as with semiotics, conceptual frameworks are never wholly complete. It remains possible, then, to exploit the presuppositions of any given framework on which any criterial discussion depends. By raising critical questions of how those constraints produce the domain of speakability, we simultaneously create the

[141] For an interesting twist on the "deep structure" theory, see Mark Turner's *The Literary Mind: The Origins of Thought and Language* (New York: Oxford University Press, 1996). Turner argues that syntactic structure comes from narratives and parable: "With story, projection, and their powerful combination in parable, we have a cognitive basis from which language can originate" (p. 168). Turner would, however, likely continue to agree with my central thesis but perhaps suggest a different theoretical foothold from Chomsky, Pinker, or Bloom.

possibility to evaluate, critique, and change the future of linguistic frameworks that are nowhere implied by those presuppositions.

I conclude by showing how Mark Sagoff offers plausible modes of resistance to the dominant utilitarian value language of NEPA. Sagoff offers a framework in which society can appreciate the qualities of ecosystems beyond mere economic use value. By proposing "different terminologies" that stand the process of quantification on its head, the new frameworks also help us to identify the health and integrity of ecosystems in new linguistic frameworks that allow us to describe those natural systems as being "free from illness, injury, or distress."[142]

The Philosophical Roots in NEPA's Theory of Value

As a legislative enactment of public law NEPA put forth, for the first time, a general declaration of national environmental policy. The policy is divided up into two main sections, the first of which is the "Declaration of National Environmental Policy." Under this main title, there are six enumerated goals that are established to carry out the policy. They are as follows:

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
4. preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;
5. achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.[143]

[142] Mark Sagoff, "Fact and Value in Ecological Science," *Environmental Ethics* 7 (1985): 113.
[143] *National Environmental Policy Act, U.S. Code*, vol. 42, sec. 4331 (1970).

There are noticeable differences among the six points and accordingly, differences in what it requires to fulfill those objectives. In other words, by NEPA embracing a variety of different goals, it follows that the values that inform those diverse goals will be equally diverse and in all likelihood will not correspond, and possibly even conflict.

Although there are six, I intentionally focus on the fifth point and in particular the type of language that is used to express its aim. The fifth point is important in a couple of ways: first, because the language used to express its aim isn't used in isolation, but is in fact repeated in many other parts of the document. Second, and more importantly, is what this type of language represents in terms of the value model and how that model functions among other types of modes of value. I focus on the fifth point, therefore, not because other types of values are not proposed or important, but because through its use of language and metaphor, the fifth point invokes a model of valuation that tends to rhetorically colonize other modes of value.

When reading NEPA, one is immediately struck with the literary image of *balance*. Larry W. Canter agrees and states that the thrust of NEPA is to "ensure that balanced decision making regarding the environment occurs in the total public interest."[144] We need not read very far into the language of the policy to discover the idea of balance at work. Section 101 (b) states that in order to carry its goals it may

> Achieve a *balance* between population and resource use which will permit a high standard of living and a wide sharing of life's amenities.…[145]

More latent images of balance are found where the "use" of the environment ought to be examined bearing in mind the potential consequences from such behavior. Section 101 (b) reads:

> Attain the widest range of beneficial uses of the environment without degradation, risk to health, or safety, or other undesirable and unintended consequences….

[144] Larry W. Cantor, *Environmental Impact Assessment* 2d ed. (New York: McGraw-Hill, 1997), p. 1.
[145] *National Environmental Policy Act*.

In Title I, the "Declaration of National Environmental Policy," section 101 (a) "harmony" serves as a metaphorical substitute for balance in the following:

> …in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive *harmony*, and fulfill the social, economic, and other requirements of present and future generations of Americans.[146]

Harmony, here, is rhetorically effective as a metaphor in that it indicates the need for a proportionate arrangement of interests between current and future generations of humankind and nature such that each can exist in a balanced and productive relationship.

These metaphorical and literal uses of *balance* likely evoke a variety of possible images. We might imagine a mechanistic scale where such a situation might be played out, and pursuing this metaphor further, perhaps we would envision an environmental dilemma where the decision-making process as taking place on this scale. Consider the following situation: the environmental interests of preserving a wetland area near an expanding suburb are to be weighed alongside the social and economic concerns of the chamber of commerce, business leaders, and developers. Here, environmental interests would weigh in on one side of the scale, and the economic and social interests would weigh in on the other. The scale would function by simply giving each side proper consideration (that is, the appropriate weight) and let the scale do its job. Whichever side has more weight (accumulated the integrated consideration of technical, economic, environmental, social, and other factors."[147]

Of course, we might want to argue that we have simplified a complex issue where we may, in fact, need not be forced onto either horns of the dilemma: the environment or the economy. Clearly there are a host of other options. For instance, the community could opt to densify a

[146] Ibid.
[147] Cantor, *Environmental Impact Assessment*, p. 1.

previously developed area, change interest) would tilt the scale and thus, deliver a decision on the matter. Here, NEPA would function as that normative scale on which this environmental decision ought to be weighed since the situation requires the consideration of a variety of environmental concerns alongside "social, economic, and other requirements," as NEPA points out.[148]

Despite the seemingly commonplace nature of such environmental dilemmas, assessing the plurality of interests has become more complicated and problematic. While economic interests weigh heavily in our society, the establishment of NEPA has been to also acknowledge that environmental issues are becoming increasingly important and thus ought to be regarded as well. In fact, NEPA's goal is to ensure environmental quality while simultaneously giving due consideration to a variety of competing environmental interests. According to Canter, NEPA's "project planning and decision making should include a few zoning ordinances, and convert an area into a multiple-use zone, thereby redirecting growth internally. This option would likely satisfy both the community's environmental interests and community's business leaders. This solution may, of course, somewhat frustrate the developer's "best-scenario" economic interests, but perhaps it is the acceptable compromise in this particular situation.

I am not saying that such innovative decision making does not happen; however, if it does occur, it does so in spite of NEPA. Put another way, the *balance/scale* metaphor tends to frame environmental decision making as an *either/or* proposition—a two-horned dilemma. While this concept of balance is on occasion explicitly declared as the normative role for NEPA, its frequent reiteration throughout the text invokes its normative status. In so doing, NEPA formalizes this concept and determines the way in which environmental decision making *ought* to function. By internalizing the *balance/scale* metaphor within the decision making framework,

[148] Ibid.

environmental interests are stacked against economic concerns despite the fact that other, less dualistic, options may exist. My argument, however, is not so much that the use of this metaphor causes environmental decisions to be couched in particular words or phrases. Rather, I argue that the notion of a *balancing scale* works as a metaphor precisely because the value language in NEPA provides an axiological structure by which the identity of environmental value is given shape. Although NEPA makes linguistic provisions for an alternate axiology, conflating non-compatible value theories obscures important differences between them. By virtue of the value language within NEPA, however, the result is not simply a jumbled multiplicity of environmental axiologies. The conceptual framework behind a *balanced* approach to environmental welfare ends up keeping other value language from operating on its own terms by colonizing those possibilities and subsuming them into a utilitarian framework. The utilitarian framework of NEPA, then, is best understood as a performative speech act. But before offering such analysis, a brief history of the philosophy of value is helpful.

Value happens to be one of those words that can have different meanings. Historically, the problem of value is as old as philosophy itself, if one accepts that human values are linked to ethics and moral behavior. The idea here is that valuing is a human action and therefore can be appraised ethically. Different definitions of value, however, can lead to confusion and to situations in which the resulting ambiguity allows for the appearance of agreement, but actually obscures important differences. The distinction between values as *worth* and values as *principles* is particularly important. Consider the following *Oxford English Dictionary* definition of *value*:

> (1) The material or monetary worth of a thing; the quality of a thing considered in respect of its power and validity for a specified purpose or effect.

(2) The principles or standards of a person or society, the personal or societal judgment of what is valuable and important to life.[149]

The first definition of *value* is the noun form of value as worth. For example, value as worth is implied in the question, "What is the value of the wetland?" The answer might be $100,000 or it might be a list of benefits derived from an intact wetland area. In this case, *to value*, means to assign worth as in, "I value the wetland at $100,000." The second notion of *value* has to do with principles or ideals as in valuing one's marriage, family, or friend, for instance. In this case, to value implies to esteem or to hold as important. This type of value is qualitatively different from establishing what a marriage, family, or friendship is worth. It means to respect it and act in a way that is consistent with that value, for the sake of that value.

The notion of value as worth has its roots in Aristotle's ethics, where he posits a particular goal or purpose for human behavior, namely, happiness. For instance, most things such as wealth are valued only as a means to a worthy end, whereas individual virtues, such as courage and generosity are deemed worthy in their own right, and also can be sought for the sake of happiness. In other words, while happiness, the ultimate end, lies in virtuous activity; virtuous actions themselves are to be valued on their own account, and not only on account of their effects.

On the whole, Aristotle takes the view that virtuous behavior leads to happiness, but there is also the sense that virtues are included in the ends of action: "Virtuous actions must be in themselves pleasant. But they are also good and noble…."[150] However, while there can be no happiness without pleasure, pleasure is distinguished from happiness. For Aristotle, pleasures are good or bad only according to their connections to good or bad activities. Therefore, the first

[149] *Oxford English Dictionary* (New York: Simpson and Weiner, 1989).

[150] Aristotle, *The Nicomachean Ethics*, trans. David Ross, revised by J.L. Ackrill and J.O. Urmson (New York: Oxford University Press, 1998), bk. 1, chap. 8, p. 17.

business of ethics is to define the good; then virtue can be understood to consist in behavior that tends to produce the good. To be clear on this point, however, Aristotle doesn't say that one should act in a certain way solely for the consequence of happiness. Rather, happiness is an activity of the soul in accordance with virtue, not a consequence.

In the late eighteenth century, Jeremy Bentham proposed that what is good is pleasure or happiness—he used these synonymously—and what is bad is pain. While the idea that the best possible state of affairs is one which involves the greatest balance of pleasure over pain had been advocated earlier, Bentham advanced the idea by developing the hedonic calculus: in comparing two actions, we count up the various aspects of pleasures or pains each will produce (e.g., intensity, duration, proximity, secondary effects, and so on). Using this method of weighing the units of pleasure against the units of pain, moral decisions ought to be based on the consequences that result in the most units of pleasure. Utilitarians, such as Bentham and then later as refined by John Stuart Mill, did not concern themselves with Aristotle's distinction between happiness and pleasure, and instead focused solely on the consequential aspects of moral decisions. In this sense, the moral worth of an act is *valued* based on its foreseeable consequences rather than on the act per se.

If we extend the doctrine of utilitarianism to environmental concerns, the environment becomes valuable because it has the possibility of resulting in favorable consequences, usually economic benefits. Accordingly, environmental decisions ought to be decided by weighing the resulting consequences. Utilitarian ethics then is the basis for economic valuation, and thus, establishes the environment's value in terms of its worth.

Value as principle, on the other hand, has philosophical roots dating back to Plato, but since then Immanuel Kant, in the late eighteenth century refined the details of deontological

ethics. Kant claims that consequentialistic ethics such as utilitarianism are problematic and that one should act according to certain principles for the sake of those principles. In accordance with this approach, one establishes an ethical premise and acts in accordance with it because one has rationally determined that that is the right way to act. One behaves in a certain way simply because it is right and not because of any consequences that may or may not follow. If one were to articulate the value of the environment based upon principle, one might say for example, "One ought to act in such a way as to preserve the wetland area because it deserves to be respected, not necessarily for any consequences that may or may not follow from the bioregion." So while all actions arise from a desire (intended to bring about something), what is desired is the ideal, not the benefits that may result from instantiating the ideal.

With these two theories of value, there will be different answers to the question, "Why satisfy preferences?" According to utilitarian ethics, preferences are the only ultimate source of value. According to deontological ethics, preferences are what is right rather than what is preferred. A utilitarian may claim that environmental protection is valuable because it is preferred, whereas the deontologist would claim that environmental protection is preferred because it is valuable.

When the distinction between these two meanings of value is not kept clear, values as principles can be collapsed into values of worth. For example, the U.S. Environmental Protection Agency convened a group of expert ecologists, economists, and other social scientists to discuss ecosystem valuation. Understanding that the term *valuation* could not be taken for granted, they presented the following discussion of what *value* meant to various participants:

> The broad range of values derived from ecosystems fall upon a continuum ranging from easily priced tangible benefits (such as food, energy, building materials,

> pharmaceuticals, etc.); through the values associated with less easily priced services, aesthetic experiences and bequest values; all the way to moral and spiritual values.[151]

It is clear that the panel was attempting to be as inclusive as possible by including tangible benefits, intangible benefits, and principles in its consideration. At the same time, by referring to "moral and spiritual values," they included them among the variety of "values derived from ecosystems." Implying that moral and spiritual values are derived values turns them into types of benefits to be gained rather than principles and ideals which ought to be respected. As such, when value is treated as benefits, one ought to be able to be compensated if that benefit disappears. Principles, however, if violated cannot be redressed in the same way.

For example, if you value our friendship in principle and I violate that friendship, I cannot simply reimburse you for my betrayal if your value of the friendship does not wholly depend on the benefits derived from the friendship. Therefore, when principles are conflated with benefits, they simply become market variables where they were once outside of market consideration. Moreover, once values as principles become aggregated with values of worth they can be leveled against one another in the economic field. This conflation of values is evident in the language of NEPA as well. Section 102, B, of NEPA states:

> [NEPA] will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations.[152]

If one grounds environmental value based on principle, "unquantified amenities and values," by definition, cannot be weighed alongside "economic considerations." Just as if one were to value or love a family member in principle, we wouldn't accept the idea that the loss of that family member could be adequately compensated through economic means. As a result,

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[151] Gail Bingham et al., "Issues in Ecosystem Valuation: Improving Information for Decision Making," *Ecological Economics* 14 (1995): 75.

[152] *National Environmental Policy Act.*

values as principles are not reducible to units of pleasure, dollars, or any other derivative benefits. We may derive benefits or pleasure from the love and companionship of family members, but our love for them cannot be reduced to those pleasures derived from the relationship.

It should be noted, however, that the sense of duty associated with deontological ethics is not wholly a satisfying moral directive. The sense of duty tends to overlook the very genuine feeling of joy that can accompany such ethical behavior, and as such ought to at least partly count as a legitimate function of moral motivation. Perhaps, then, Aristotle's ethics which includes both means and ends morally important is better equipped to deal with such complex relational aspects of ethics and motivation.

The point here, though, is that regardless of whether one system is better suited to handle particular ethical questions, utilitarian and deontological ethics are clearly distinct in whether or not consequences ought to inform moral choices. Given the distinction between these two modes of ethics, one might wonder how exactly NEPA plans to "insure that unquantified environmental amenities and values will be given appropriate consideration with economic and technical considerations," because they are incompatible ethical categories. Surely unquantified values cannot be weighed on the same scale as the NEPA suggests. To do so would be to commit the type of mistake that Mark Sagoff calls a "category mistake."[153] Borrowing the term from Gilbert Ryle, Sagoff argues that environmental values are precisely the kind of community values that are based on intersubjective goals which evolve through the history, community, or nation as a principle. As such, values of this kind cannot be reduced to an economic cost-benefit analysis. Sagoff explains:

[153] Mark Sagoff, *Economy of The Earth: Philosophy, Law, and the Environment* (New York: Cambridge University Press, 1988), pp. 93-94

> I wish to argue that the attempt to shadow-price public values as externalities of private transactions involves a category mistake. This is the kind of mistake you make when you predicate one concept for another that makes no sense in relation to it …. [154]
>
> An analyst who asks how much citizens would pay to satisfy opinions that they advocate through political association commits a category mistake. The analyst asks of beliefs about the objective facts, a question that is appropriate only to subjective interests and desires.[155]

"Consumer preferences," Sagoff argues, work as a type of cost-benefit analysis that only functions within a utilitarian framework. As such, the environment has value only to the extent that it is worth something as determined by an economic market. It is a mistake according to Sagoff to employ a utilitarian framework when moral principles are clearly more compatible with values as overarching goals. Siding more with a deontological approach, Sagoff argues that "certain environmental resources ought to be treated not as means to ends … but as ends in themselves."[156]

In addition, Sagoff points out that people's choices are sometimes motivated by ethical values which have little or nothing to do with their own immediate satisfaction of self-interest, and thus values are at times determined by the deontological method of moral principles. This alternative approach to decision making poses a two-fold problem for economics. If, on the one hand, principles can be integrated into the economic calculus, then the justification for trying to satisfy people's preferences becomes a circular justification: satisfying preferences to promote individual welfare becomes satisfying preferences to satisfy preferences. If, on the other hand, ethical principles are not included in the economic calculus, then theory fails to incorporate some of the most important considerations relevant to environmental issues, namely, "political, moral, ideological, and cultural values [which] are central to both human experience and environmental

[154] Ibid.
[155] Ibid.
[156] Ibid., p. 90.

policy."[157] Sagoff considers the fate of the wild salmon whose habitat is being destroyed by hydroelectric dams along the Columbia River:

> Although the loss is unimportant to the economy overall (there is no shortage of salmon), it is of the greatest significance to the American Indian tribes that have traditionally subsisted on wild [cohoe] salmon, and to the region as a whole. By viewing local flora and fauna as a sacred heritage—by recognizing their intrinsic value—we discover who we are rather than what we want.[158]

If cohoe salmon are insignificant in the economic big picture, as Sagoff claims, then any attempt to argue for their preservation using an economic rationale would be severely limited because economics is incapable of allowing the expression of a full range of the salmon's value. What occurs, says Sagoff, is that moral principles and political convictions are construed as market externalities and we deal with them by assigning them a market price.[159]

Environmental damage is rarely taken into consideration in ordinary economic transactions, and therefore the "new resource economist's" efforts to account for and redescribe such externalities exist, but only in terms of economic language.[160] In a slightly different tack from Sagoff's argument, I do not argue that we ought to rely on deontological ethics over utilitarian ethics, nor that non-economic values ought to override economic concerns. Certain aspects of the environment are, of course, used as resources needed for subsistence, so surely economic value theory has some role to play. At the same time, though, I agree with Sagoff that there ought to be settings provided in which individuals can express preferences as citizens independent of the preferences they express as consumers. For Sagoff, the fact that moral principles are mistakenly construed as market variables is simply the way it is, a brute fact. But if we do not take for granted the fact that utilitarian economic frameworks affect other modes of

[157] Sagoff, "Four Dogmas of Environmental Economics," *Environmental Values* 3 (1994): 285-310.
[158] Sagoff, "Do We Consume Too Much?" *Atlantic Monthly* 279, no. 6 (June 1997): 80-96.
[159] Sagoff, *Economy of the Earth*, p. 91.
[160] See David W. Pearce, *Economic Values and the Natural World* (London: Earthscan, 1993).

valuation, we might pursue an explanatory theory to account for this shift. Such a pursuit might unveil how the utilitarian system disallows the possibility of principled values to exist on their own terms and not buried away in among economic values. It might also be constructive in developing a multiplicity of value frameworks that can function interactively without any particular valuation subsuming another—perhaps a better solution than having environmental decisions compartmentalized into separate, exclusive entities.

In the following section, I show how the domain of environmental value is performed by the dynamics of economic language, and in so doing, how it has a colonizing effect on the discursive system of values. On this note, I tend to agree with Jack Turner who argues that environmental injustices are not the product of unscrupulous economists, but rather are caused at a deeper, more fundamental level: the environment "has been wounded by particular uses of language."[161] Language affects the environment because at a fundamental level it involves the abstraction and translation of value. The domain of value is as much a category of identity as it is a linguistic performance and more likely to be the result of linguistic cooperation than a category set by external conditions. To garner a fuller understanding of how language can both describe and perform, we must think of language as not just a means to describe, but as actively shaping in the act of description.

The Performative

The notion that words are one thing, and acts another, was radically undermined in 1955, when J. L. Austin laid out his theory of "speech acts" in a series of lectures at Harvard University which later became, *How to Do Things with Words*.[162] Austin proposed a distinction between two sorts of utterances. Constative utterances such as "Ed promised to come" make a statement,

[161] Jack Turner, *The Abstract Wild* (Tucson: University of Arizona Press, 1997), p. 52.

[162] J.L. Austin, *How to do Things with Words*, 2d ed., ed. J.O. Urmson and Marina Sbisa (Cambridge, Mass.: Harvard University Press, 1962).

describe a state of affairs, and are true or false. Performative utterances, are not true or false and actually perform the action to which they refer. To say “I promise to pay you” is not to describe a state of affairs but to perform the act of promising: the utterance is itself a kind of doing. The central nugget of Austin’s perception was that there was something different or special about utterances that perform a speech act by saying explicitly “I order you,” “I tell you,” “I request you,” and so on, which sets them apart from ones that do just ordering or telling or asking by other means, as well as by other statements about non-first-person or non-present ordering, telling, or asking.

Austin determined that stating and asserting are acts, but propositions are not. Thus, unlike descriptive statements, speech acts such as promises, bets, marriage pronouncements, and so on are not subject to tests of truth or falsity but need to be evaluated by a different criterion, namely by their effectiveness, or as Austin puts it, their felicity. As such, performatives are inherently and necessarily social, that is, dependent on the existence of agreed-upon conventions about the effect of certain words uttered in particular circumstances by persons conventionally authorized to enact such effects. The distinction between the performative and the constative captures an important difference between types of utterances and alerts us to the extent to which language performs actions rather than merely reporting on them.

Austin also noted, however, that there are problems in the exclusivity between the performative and the constative when other factors in language are considered. As he pushed the notion of performativity further, he began to notice some difficulties. The apparently constative statement, “I will pay you tomorrow,” which certainly looks as though it will become either true or false, depending on what happens tomorrow, can, under the right conditions, be a *promise* to pay, rather than a description or prediction like “he will pay you tomorrow.” But once you allow

for the existence of such "implicit performatives where there is no explicitly performative verb, you have to admit that any utterance can be an implicit performative. The sentence, "the cat is on the mat," a basic constative utterance, can be seen as the elliptical version of "I hereby affirm that the cat is on the mat," a performative utterance that accomplishes the act of affirming to which it refers. John Searle develops this idea most prominently with a subtler definition of performativity which centers on the issue of a special possibility, namely, on the possibility of doing certain kinds of action by or in describing them. [163] The crucial insight here is not the performative verbiage that one uses, but the fact that there are things that can be done by describing them. That is to say, a description can constitute, under the right circumstances, a performance.

For Searle, because performativity only works in certain kinds of cases, he has a complex theory of the background of social facts against which it becomes possible to say, "I christen you 'Adolphis'," or "I pronounce you husband and wife." Such first-person descriptive statements constitute effective actions which change the state of the world around the speaker such that a baptism or a wedding has occurred. But the most important thing is that it is possible, under the right circumstances, for a speaker to engage in a successful act of christening by describing him or herself as doing so. As Searle points out, speech acts, such as christening, require very special social authority and circumstances and are different in this respect from such acts as asking, telling, and ordering which seem to be the basic communicative actions and have such general conditions that they are likely to be performable by all speakers. Normally, given this understanding of speech interaction, all it takes for a speaker to perform one of these basic kinds of speech actions is to describe him or herself as doing so, but that doesn't mean that he or she is

[163] See John R. Searle's *Speech Acts: An Essay in The Philosophy of Language* (Cambridge: Cambridge University Press, 1969), and *Expression and Meaning: Studies in the Theory of Speech Acts* (Cambridge: Cambridge University Press, 1979).

going to succeed in his or her goals in performing the act. So to say that he or she succeeds in ordering somebody by saying, "I order you to leave," doesn't mean that they leave; it just means that he or she succeeds in issuing an order. But it still will be an order, unlike a christening with no authority to christen, which according to Austin and Searle will just be a failure and will simply not be a christening.

Other aspects of reality vary considerably in their receptivity to being influenced by descriptions as social conventions may decree. But Searle recognizes that such performative actions are not limited to first-person utterances. Therefore, an umpire with the right social authority says, "Out!" and makes it an out by saying that it is; a court official can say, "This court is now in session," and brings the court into session, and so on. As Searle put it in 1969,[164] the fact of an out in baseball or a court being in session are institutional facts rather than brute facts, and hence can be brought into being by the right socially authorized and authoritative speech acts.[165] Other examples are as common as money. Searle explains:

> When, for example, it says on a twenty-dollar bill, "This note is legal tender for all debts public and private," the U.S. Treasury is not describing a fact but in part creating one.… Performative utterances are those in which saying something makes it true.[166]

Here, Searle points out the causal force of language in the creation of an institutional reality, in this case, the reality of money. Money counts as money because what counts as money, goes for social and institutional reality in general. Money, property, marriages,

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[164] Searle, *Speech Acts.*

[165] In Eve Sweetser's public lecture "Metaphor and Performativity," *Languaging 2000,* 3 March 2000 at The University of North Texas, she points out that Searle also recognizes that magical or supernatural being are thought of as having different performative abilities from humans. They can affect not only social effects but also things which would come for us under Searle's brute fact label. So his example of God's, "Let there be light," in Genesis 1:3 is perhaps not the best of such examples since its subjunctive mood removes the possibility for a purely depictive reading. However, a very clear example of performative use of this kind can be found in *The Two Towers* by J.R.R. Tolkien, "The Voice of Saruman," in The Lord of the Rings (Boston and New York: Houghton Mifflin, 1994), bk. 3, chap. 10, p. 569, in which the good wizard Gandalf breaks the traitor wizard Saruman's staff by saying, "Saruman, your staff is broken," an utterance couched in a purely descriptive form.

[166] Searle, *Mind, Language, and Society: Philosophy in the Real World* (New York: Basic Books, 1998), p. 115.

universities, and so on are all partly, but not entirely, constituted under these descriptions by the fact that we regard them as such. There is no fact outside of this sociolinguistic construction of money which makes the piece of paper in my pocket with ink on it have the certain powers that it has. This is exactly why counterfeit money is possible at all. The institutional reality of money occurs when a representation (pieces of paper with ink markings), and the thing it represents (legitimate currency), function in a successful causal relationship.

The creation of legal tender by the Treasury is a causal relationship in that it brings about a state of affairs by describing it. It is also at the same time, however, performative in that it creates the fact it describes. The background of social authority which authorizes the Treasury to function performatively however, is clearly the significant factor for establishing certain states of affairs.

Disclosing the linguistic difference and interplay among constative and performative utterances indicates that the relation between what an utterance says and what it does is not necessarily a clean distinction. While the early analysis of the performative, as developed by Austin and Searle, outline the force that language can have and show the difficulty in separating the performative character of constative utterances, they were perhaps too narrow in giving their definition of performativity. Performatives depend on a complex, paradoxical combination of the performative and constative, where in order to succeed, the act must convince by referring to states of affairs and success consists of bringing into being the condition to which it refers. Cultural descriptions everywhere attest to the fact that we ought to think about particular aspects of language and how the repetition of a single formula makes something happen, such as the act of making a promise.

Judith Butler takes the notion of performatives beyond what Austin and Searle proposed, and synthesizes the history of performativity taking it to a new level particularly suited for the analysis at hand: the social production of environmental value through NEPA. For Butler, rather than performatives being useful only as a model for understanding a particular aspect of language, she considers performativity crucial to understanding the production of social processes and historical realities. In one sense then, Butler agrees with Searle in that performatives which function in the guise of constatives function largely as sociolinguistic constructions. But in another sense, Butler disagrees with the claim that performatives are restricted to institutional facts, and rejects the notion that they are successful only because they are intuitional facts. For Butler, *identity* itself is a cultural and social production made possible via the performativity of language. Butler proposes that we consider gender as performative in the following way: gender is not so much what one is but what one does. Gender is created by acts, some linguistic and others non-linguistic, but as representations of gender in the way that a promise is created by the act of promising. You become a man or a woman by repeated acts, which, like Austin's and Searle's performatives, depend on social conventions and habitual ways of doing something in a culture. Just as there are regular, socially established ways of promising, making a bet, giving orders, and getting married, there are also socially established ways of being a man or being a woman. For Butler, the fundamental categories of identity are cultural and social productions, which means they are more likely a result of ideological cooperation than resulting from conditions of reality.

Butler does not mean that gender is a choice. It is not a role you put on—as you would a hat—that would suggest that there is an ungendered subject who chooses prior to gender. To be a

subject at all is to be gendered: you cannot within typical social boundaries be a person without being male or female. Butler writes:

> The "I" neither precedes nor follows the process of this gendering but emerges only within and as the matrix of gender relations themselves.[167]

Butler stresses that the performativity of gender should not be thought of as a singular act, something accomplished by one particular act. Rather, it is "the reiterative and citational practice," the compulsory repetition of gender norms that animate and constrain the gendered subject.

Just as language is performative, so is gender in the sense that it doesn't just transmit information but must be thought of as also enacting the conditions to which it refers through repetitions of established protocol and discursive practices. But the causal forces of the performative ought not to be conceptualized as linear, one-way enactments. This is precisely because performatives as well as gestures operate in a symbolic realm. Unlimited semiosis tells us that if operating symbolically, performatives can then make things happen because they refer to actions that are themselves symbolic which can, in turn, trigger again additional symbolic meanings, and so on, ad infinitum, producing a dense web-like series of interrelated connections. Defying origins or beginnings, my masculinity exists to the extent that my wearing of clothes and participating in specific activities describes my masculinity to others, in some sense, and to myself, because it is simultaneously understood to be the way a man would act. Masculinity is the product of a feedback loop in which the result and the cause are performed and produced through actions. As I argue below, environmental value is much like gender in that it is a product of similar complex symbolic performatives that create their own stability in a matrix of interrelated symbolic reflexivity. Hayles describes this feedback loop effect as "Movement

[167] Butler, *Bodies that Matter*, p. 4

whereby that which has been used to generate a system is made, through a changed perspective, to become part of the system it generates."[168]

NEPA's Performative Speech Act

The utilitarian framework within NEPA is an interesting example of performativity because it functions as a complex series of interconnected performatives. Rather than having the type of immediate effect on situations, such as "this meeting is adjourned," as Austin indicated, utilitarianism works more like Butler's notion of the performative. As a model for understanding the production of value, I argue that the utilitarianism in NEPA is a performative in two ways that Butler describes: (1) it allows NEPA to produce the identity of the environmental value, which (2) creates a norm for conceptualizing environmental value. These are not exclusive operations, but rather function by each one reinforcing the other.

The label *performative*, however, is typically supposed to distinguish not between things that have no social effect and those that do, but between those that have some social effect by describing having that social effect and those that have social effect by other means. If utilitarianism is a performative, it must somehow not merely affect the socio-environmental conditions; it must simultaneously describe having that socio-environmental effect.

As shown above, NEPA often uses the metaphor *balance* to describe the methodology of environmental decision making. In this sense, appropriate environmental decisions ought to give due consideration to a variety of environmental interests, not just one particular interest. In another sense, however, *balance* also works performatively in that it assumes a particular relationship among a variety of environmental interests. The following example illustrates this point: if I were to balance apples and oranges, it would make sense to use a single scale to determine how much they weigh in relation to one another. In fact, using a type of scale that

[168] Hayles, *How We Became Posthuman*, pp. 8-11.

shows the weight relationship between the objects weighed we could actually achieve a balance of apples and oranges in this sense by simply placing the same weight of apples and the same weight of oranges on each side of the scale. Balancing of this sort will most likely involve some trial and error, and perhaps slicing, but in principle you should be able to balance apples and oranges in terms of weight.

This sort of scale for measuring weight, however, is useless to compare the taste, color, or some other experience of an apple with the experience of an orange. In fact, the point when saying, “It’s like apples and oranges,” is precisely to compare such things in such a way that makes no sense. They are incommensurable—that is, not capable of being measured by a common standard. If you found, for instance, oranges to be intolerably sour, but found the taste of apples quite pleasant, it is likely that no quantity of oranges would cause the two to balance out. In the same way, if you were offered a dozen oranges and only one apple, you still might prefer the apple. In fact, since it is possible that no amount of oranges would create a balance nor trump the apple preference, it simply won’t do to weigh the quality of an apple experience with that of an orange experience the same way you would balance their mass weight.

In much the same way, *balance*, as a literary metaphor describing the method of environmental decision making, also implies a commensurate relationship among environmental interests assuming that they could be balanced in the first place. Linguistically though, *balance*, does not function in isolation from NEPA’s overall discursive system, it functions as a descriptive metaphor in an interactive system of discourse. Indeed, NEPA is a tight weave in which the performative effect is proportional to interrelationship of descriptive metaphors, explicit declarations, and underlying analytic frameworks. Successful performative discursive systems employ various linguistic modes, all which influence each other and feed back to

reproduce their influence. Thus, in assuming that the totality of environmental interests and values can be captured within a single valuation matrix, *balance* as a descriptive metaphor operates exclusively within a utilitarian framework. In turn, the analytical rational of a cost-benefit calculus enables the metaphor to function meaningfully as a coherent part of the utilitarian system.

As a performative system the utilitarian framework in NEPA and the Environmental Impact Assessment (EIA) portion of the document work in conjunction with each other. In tandem, they create a strong bond since the EIA process explicitly operates according to the preconditions of the utilitarian system. When questions of environmental quality arise, EIA models invariably recommend that these be quantified for data analysis. For instance, health impacts are given a rating value to each category of heath effects: for "non-disabling, reversible adverse health effects affecting a limited number of people," a (-1) is assigned, whereas for "irreversible, long-term adverse health effects affecting a large number of people," gets a (-8).[169] For beneficial effects, simply change the (-) sign to a (+) sign. For example in a flowchart for characterizing health effects, the analyst is instructed to "Indicate the magnitude of the health effect" and "For qualitative assessment, describe what would be the weight on the overall risk of the effects that could not be quantified.[170] Thus, the overall casting of notions of quality in terms of costs and benefits reduces the possibility of a genuinely qualitative assessment. Questions about the impact on quality of health end up being converted into a standardized method of quantification and weighed using "multiplier factors," thus confusing *quality* as simply "a lot of quantity."

[169] Canter, *Environmental Impact Assessment*, pp. 540-541.
[170] Ibid., p. 539.

The presuppositions that require the environment to be valuable and expressible in quantifiable and commensurable units do more, however, than simply confuse the ethical positions. Consider how a standard questionnaire which might be used in the EIA process to estimate the value of a wetland area that stands in conflict with a proposed development plan for a suburban neighborhood. It would be common protocol that a contingent valuation survey be used to determine the social impact on the local community. A sample of the population would be asked, for example, what they consider the worth of the wetland area to be. Depending on the framing of the question, they might be asked how much they would be willing to pay to preserve the wetland, or perhaps asked how much the wetland is worth to determine a recompensation value.[171] Responses to the survey might conclude that its worth is "everything" or "an infinite amount" or "nature is too valuable to be evaluated in this way" or similar formulations.[172] These responses, however, are not considered to be an eligible valuation and as such, are disregarded. Michael Prior explains that such responses are an all too common result in assessing environmental value:

> This always happens and such questionnaires are always discarded along with others deemed to be incomplete or wrongly completed. They have been dropped because the computational procedure used to analyze the questionnaires cannot cope with such formulations nor can the underlying theory of contingent valuation. What is happening is that these respondents are rejecting the "primitive notions" and "basic concepts" of the

[171] There is a considerable amount of contentious literature on how this question ought to be phrased. While too distracting to be fully presented here, the two main arguments comes from (1) Ronald H. Coase, "The Problem of Social Cost," *Journal of Law and Economics* 3 (1960): 1-44, in which he suggests that given zero transaction costs property rights will go to the party who values it most. So in this case the wetlands will be allocated to that party that is willing to pay the most for the right to the property, and (2) Holmes Rolston, III, "Valuing Wildlands," *Environmental Ethics* 7 (1985): 23-48, in which he argues that benefits, whether from wildlands or non-toxic environments are not "goods" or "services" that ought to be defended through market mechanisms of "willingness to pay" schemes, they are non-market values by tradition. Instead of willingness to pay for preservation, the wetland area should remain intact until the community is willing to sell.

[172] This type of valuation survey is less hypothetical than I present here. In Sagoff's *Economy of the Earth*, pp. 88-89, Sagoff cites Robert D. Rowe and Lauraine G. Chesnut, *The Value of Visibility: Economic Theory and Applications for Air Pollution Control* (Lanham, Md.: University Press of America), pp. 80-81, who show that in a contingent value exercise on the "value" of air quality in Wyoming, twenty to fifty percent of respondents considered air quality to have infinite or unlimited value, thus their responses were unaccounted for and classified as "unknown."

> questionnaire. They no longer share a common "systematic language" with the compilers of the survey though this is obscured by the surveyors classifying such questionnaires as incomplete or non-compliant.[173]

Only those valuations that fall within the predetermined range of normative discourse are considered rational responses. Those values that fall outside of that system are invalid or irrational. They are irrational because not to value the wetlands according to the acceptable range of translation is to deny the benefit of bringing all values under the rubric of economic rationality. To move outside of the domain of speakability is to remove oneself from the status of a rational valuer. Moreover, in this regime of value, the environment cannot have value without it being capable of cost-benefit analysis. Values if they are to be counted, must be within the normative range of commensurate units, and as such will allow the cost-benefit rationale to function in the EIA process.

In Butler's analysis of performativity, she recognizes "that the field of speech is structured and framed through norms that precede the possibility of description." As such, Butler argues, the primacy and formative power of language causes descriptions themselves to be normatively structured in advance:

> If a subject becomes a subject by entering the normativity of language, then in some important ways, these rules precede and orchestrate the very formation of the subject.[174]

By replacing Butler's "subject" with "values," we can say, "If values become values by entering the normativity of language, then in some important ways, these rules precede and orchestrate the very formation of the value." According to this view, the value language of utilitarianism is systematically performative. First, it actively regulates and constrains the domain of rational, speakable discourse by excluding those responses that fall outside of the system of rationality. Thus, it is restrictive in the sense of depriving valuers from expressing

[173] Michael Prior, "Economic Valuation and Environmental Values," *Environmental Values* 7 (1998): 434-435.
[174] Judith Butler, *Excitable Speech: Politics of the Performative* (New York: Routledge, 1997), p. 135.

themselves in a variety of ways according to the terms of their evaluation. But in another sense, the system of language is also productive in that it forms the identity of environmental value by legitimating certain ways to speak of its value. If it does permit other versions of value, it does so by hegemonically translating those expressions into the range of acceptability by recasting them in terms of quantifiable, commensurate units.

The process of describing environmental value, then, is best understood as a complex enactment of producing the identity of environmental value. The premises of utilitarian ethics becomes performative by constructing a bounded discursive system, structuring the domain of value possibilities and reducing its variety to a few salient speakable features. In turn, this system of discourse supports a mode of analytical reasoning used to inform the environmental decision making process. Of course, it can be said that all systems for evaluating choices rest on a set of presuppositions. The point here is that the utilitarian value framework is not as a *passive* framework in which the terms of the problem are simply described based on facts of reality. Utilitarianism is not simply a chronicling of environmental value; nor is it enacting a seamless word-to-world fit. It is a systematic set of "language games," in which seemingly passive descriptions *actively* translate the subject of the environment into the terms of its operating discursive system of values. Thus, by invoking a utilitarian framework and cooperating linguistically NEPA is performative in that it enacts a compulsory repetition of valuing and establishes a model of cultural environmental value by declaring the environment to have that type of value. NEPA's discursive system creates its own stability by generating a series of mutually reinforcing linguistic maneuvers where the language supports its framework, and the framework, in turn, legitimates the meaningfulness of its language.

Resistance to Utilitarian Environmental Value Language

As much as NEPA's utilitarian framework may function as a self-legitimating performative, and as pervasive as such a system may seem, by virtue of its linguistic reality frameworks of any type are never wholly complete. In other words, the linguistic system that produces the conditions necessary to ensure the functioning of a utilitarian system of rationale also guarantees its vulnerability to exposure and disruption. As Christopher J. Preston's writing on Quine shows, discursive systems are inherently incomplete in that they require, but are not wholly constituted by actual features in the world. Preston states:

> According to Quine, it makes no sense to talk about knowledge of a prelinguistic reality since there is no access to that world without language…. Language users are simply unable to say with certainty that the empirical beliefs they take to be foundational in their account of the world are propositions that reflect actual features of the world. Observers depend on socially constructed rules that attend both observations and statements about observations.[175]

The incompleteness, then, occurs because there is no way to confirm the absolute correspondence between the representation and the thing it represents. The quest for such objectivity is undermined by the fact that value claims are not transcendent but constructed by people with specific locations in the human and natural world.[176]

It may be indeed this aspect of incompleteness that we find the frequent repetition of use value language within NEPA. But as Butler argues, it is precisely the fact that language functions as a mediating representational system that makes it possible to exploit the presuppositions of the linguistic framework and to produce future forms of value language that are nowhere implied by those presuppositions.[177] While the system of utilitarian language seems firmly situated in NEPA's philosophical world through its repeated invocations, it never functions as a culturally

[175] Preston, "Epistemology and Intrinsic Values: Norton and Callicott's Critiques of Rolston," p. 413.
[176] Ibid., p. 417.
[177] Butler, *Excitable Speech*, p. 140.

determined model of environmental valuation. As Butler says, "This is not a dead-end for [linguistic] agency, but the temporal dynamic and promise of its peculiar bind."[178]

One must understand the functioning of linguistic systems not as a static, closed, and secure system in which language operates, but as an action that must be repeated to reinvoke its status. The force of language cannot exclusively be determined by prior frameworks regardless of their cultural position. In this sense, if NEPA does enact a normative model of environmental value, this enactment at once opens up the possibility for an analysis of the set of presuppositions on which it rests, and creates the conditions for future value language.

Sagoff has proposed models of resistance to the dominant form of establishing environmental value through a utilitarian framework. One suggestion is similar to Turner's advice: refusing to talk in economic terms and to make our values known by "lodging a protest" and rejecting cost-benefit framework language as inappropriate and an illegal process for making social-environmental policy.[179] But Sagoff offers a more proactive method of resistance by offering new and "different terminology" to articulate environmental value.[180]

Sagoff begins by examining how the tentacles of use value language have encroached upon the ecological sciences and trapped them in their effort to protect ecosystems from pollution and other forms of anthropogenic damage. By relying on prudential and utilitarian arguments, they bind themselves in between two difficult positions: on the one hand, ecological theories are often found empirically unsupportable, and thus, the rationale supporting of the protection becomes untenable. On the other hand, inadvertently bogus theories have had tremendous impact in affecting ecosystem protection and preservation. It seems that ecologists are forced to either act

[178] Ibid., p. 140.
[179] Turner, *The Abstract Wild*, p. 62; Sagoff, *The Economy of the Earth*, p. 88.
[180] Sagoff, "Fact and Value in Ecological Science," pp. 99-116.

as scientists or preservationists. The way out of this dilemma according to Sagoff is the following:

> There is an easy way out of this dilemma. It is for environmentalists, including those scientists who favor environmental protection, to recognize that society, as it expresses itself in legislation, protects the natural environment for more than economic and prudential reasons. The reasons are also ethical, cultural, and aesthetic.[181]

Sagoff is not so naïve as to think it will be easy to change without encountering resistance. For example, Sagoff acknowledges that scientists who favor the protection of ecosystems may be reluctant to appeal to moral and aesthetic arguments because "policy makers will respond only to economic and prudential considerations."[182] Sagoff suggests resolute refusal to collapse non-instrumental moral arguments into quantifiable economic ones, because doing so creates a self-fulfilling prophesy.

But refusing not to play the game only goes so far in changing the game. To change the process of valuation, we must bring to the table a vocabulary and conceptual framework that makes room for moral arguments to exist on their own terms. Sagoff notices that we already have a working model and associated terminology functioning in the medical sciences, namely the concept of health. The concept of health is commonly understood not as simply an end in itself but as a means to an end. For example, a healthy person has more opportunities to participate in those things that the person enjoys, and thus, health is good on that account. This does not mean that the idea of health is reducible to the amount of pleasure that is can produce. Instead, the health of persons or ecosystems for that matter, ought to be thought of as *privative* concepts; that is, the health of a forest, for example, is defined in terms of its absence of injury, illness, or insult. When health is defined in terms of an absence of what is medically bad, we can turn the methods of quantification on its head. In so doing, we might be more apt, according to

[181] Ibid., p. 111.
[182] Ibid.

Sagoff, to better capture the general moral tenor of how ideas such as environmental health operate. Sagoff states:

> Accordingly, ecologists should not seek to define the "health" and the "integrity" of biological systems as if these were positive, measurable quantities. Rather, what is to be measured, quantified, or defined is various kinds of environmental injury, insult, and distress. We are now in a position to see that ecology can be legitimately applied to achieve both an instrumental and noninstrumental good.[183]

The priority here turns on the moral goodness of such things as health and integrity which remain independent from the fact that those qualities may be useful in some way. The resistance to use-value frameworks lies in the effort to cast problems of the environment in terms of how our actions correspond to our goals as a society. When environmental quality is understood as something to be cherished as one's heritage or cultural background, we can then assess the status of that goal in terms of the status of that quality.

Sagoff refers to current federal legislation already in place that understands environmental protection as a reflection of a vision for ourselves as a society over any use value that may result from such legislation. Sagoff states:

> The reauthorization of the Endangered Species Act, an ethical law which makes little sense … remains popular because people believe we owe more to nature than to drive species into extinction. People hardly believe that society will someday find a use for endangered species like the Colorado squawfish or the Indiana bat.[184]

The Endangered Species Act relies on a decisively moral argument. But ironically, it is not so much about the moral status of nonhuman species, but about our collective potential as moral agents with the ability to drive species extinct. The question isn't the worth of a snail darter or spotted owl; it's a question of the moral worth of our actions as they extend beyond our own fingertips.

[183] Ibid., p. 113.
[184] Ibid., p. 111.

As we pursue a goal of environmental quality, we must resist allowing that goal to be defined according to the scientific methods of quantification. The idea of environmental quality, then, is never wholly complete: it demands continual introspection and scrutiny. It demands assessment not only of whether various actions or legislation complement our societal goals, but rigorous attention to the terminology and language used to frame the public debate. We must ensure that within the discourse of the environment, vocabularies and conceptual frameworks help us to "evaluate, not simply control, to appreciate, not simply to manipulate, to protect, not just to manage."[185]

Environmental problems require a multiplicity of values to not only be heard, but counted in the decision-making process. As a federal environmental policy, NEPA is unique among other policies because it attempts to assist policy makers not only in managing ecosystems for economic considerations, but also attempts to enact environmental protection and conservation. Through language, metaphor, and conceptual frameworks, NEPA strives to provide a basis from which to "attain the widest range of beneficial uses of the environment" as well as to "promote efforts which will prevent or eliminate damage to the environment" and to "preserve important … natural aspects of our national heritage." Although NEPA is undoubtedly successful in establishing certain levels of environmental protection, it fails to provide a genuine opportunity for non-commodity values to hold equal sway with use-value assessments in the arena of public decision making. NEPA's failure on this account is caused by confusing important differences between utilitarian and deontological theories of value, thus, allowing them to be linguistically collapsed into a single cost-benefit framework.

In this chapter, I have confronted the problem of how environmental challenges often find themselves waged on utilitarian turf without ever knowing how it is that it got there. I have

[185] Ibid., p. 116 (emphasis deleted).

argued that performative speech act theory provides a useful model to understand not only how certain value language establishes the rules of the debate, but how it maintains a sense of normalcy by actively excluding other linguistic options from taking root. The EIA process, commonly understood as the "teeth" of NEPA, by and large facilitates the dominance of use-value frameworks by not allowing environmental arguments to be legitimately expressed in terms of principles or based on moral reasoning. Thus, rather than providing for a variety of ways to express the identity of environmental value, NEPA reiterates the value language of utilitarianism through a selective process in which the terms of "credible" assessments are restricted to those linguistic formulations that conform to its pre-determined domain. NEPA, then, scrutinized in its most public form, the EIA, enacts a cultural dislocation of ethical judgments as no longer useful in the process of guiding our relationships with the environment. Perhaps, though, NEPA's preamble is that fissure in the dominance of value language that may provide an opening for other possible ways of speaking to take root. Ideas such as "health" and "efforts which will prevent or eliminate" environmental damage can fortify the seeds of that new terminology without having to reenact the language it rejects. As Butler suggests, "The kind of speaking that takes place on the border of the unsayable promises to expose the vacillitating boundaries of legitimacy in speech."[186] A world that might one day become thinkable might first require us to speak in ways that have never yet been legitimated. Our speaking them, however, may produce the very conditions necessary so that they can one day exist.

[186] Butler, *Excitable Speech*, p. 41.

CHAPTER V

CONCLUSION

During the height of language's popularity among philosophical circles, Ian Hacking attempted to answer the question, "Why Does Language Matter to Philosophy?" Some have critiqued his trip—down philosophy's—memory—lane answer as less than fulfilling. In the end, though, Hacking's answer is much more than a do—it—yourself approach of asking the reader to connect the philosophical dots:

> The topics of this or that school, of 'linguistic philosophy,' 'structuralism,' or whatever … has tried to recognize the historical situation in which it finds itself, no longer merely a tool by which experiences are shared, no longer even the interface between the knower and known, but as that which constitutes human knowledge.[187]

For Hacking, the epistemological gap is filled. It has always been filled, but language and history is a different sort of "soil" connecting us than we had imagined. The idea that when it comes to knowledge, "it's language and history all the way down" has caused its share of fits among philosophers and rightly so. But even as environmental philosophers correctly refuse the over stated nominalistic tone of the argument, we are nonetheless left reeling with the realization that, at the very least, language and history do indeed have something to do with epistemology—and it seems to keep extending farther and farther down.

In an attempt to offer clear away some of the wide-spread misunderstandings of language as it relates to cognition and the environment, humans, I argued, are never dependent for information on direct spacio-temporal phenomena alone for something to have a *meaning* for us. In addition, I made the case that the range of our meaning and interpretive response to phenomenal events is both predisposed and unparalleled. So while humans, either as individuals

[187] Ian Hacking, *Why Does Language Matter to Philosophy?* (Cambridge: Cambridge University Press, 1975), p. 187.

or within a particular culture, can be considered linguistic agents in determining *what* meaning we bring to bear on reality, we are not responsible for the fact *that* the interpretive process occurs in the first place. These special circumstances surrounding human language points to the fact that we need to take very seriously the implications that follow from our neuro-linguistic predispositions.

Although a correspondence theory of language is often tacitly assumed, when language is looked at more seriously one begins to notice severe problems with such a theory. A more satisfactory understanding comes by seeing the linguistic process of reference as not so much derived from word-object relationships, but as functioning within a larger system of signs. Rather than viewing the function of language as analogous to a passive medium used to connect the world with words which we then transfer from speaker to hearer, dense webs of meaning often result from intra-linguistic self-reference—as when nouns, verbs, concepts, and, ideas refer to themselves and reinforce their meaning. This self-referential quality not only undermines the correspondence theory of language, it makes any linear version of language untenable as well. The complex circular referential character of language is best understood, then, by semiotics: a theory of sign production and signification.

Signification is not anything on top of, or in addition to language, but rather a "standing-for" process that occurs as part and parcel of language. Signs, whether they be words, concepts, objects, images, or sounds, do not convey meanings as *given* facts of the universe. Neither do signs constitute a medium in which the world or reality is invented, as some have misunderstood. Signs are the medium where meaning and knowledge are constructed and become available to us.

Because language is contiguous with signs and cognition, it facilitates a kind of distancing-connecting effect between us and the world. Therefore, the philosophical questions we ask about the idea of *nature* must, in part, be questions of language. I posed the question, "In what sense can *nature* serve as the foundation by which to inform the way we negotiate environmental relationships? In answering, I show how a richer understanding of the problem of nature can be gained, and many current misconceptions avoided through a rigorous exposition of semiotics both in terms of the function of signification and as a tool of philosophical analysis. In addition, semiotics encounters none of the inherent epistemological gaps created by subject/object dualisms, and therefore, dissolves the problems often found in environmental ethics. By rephrasing the problems of epistemology and the mind in terms of the transmission of signs, semiotics breaks down the inherent obstacles of dualism by taking into account both the subject and object, and by outlining how they contribute to the possibilities and limits of knowledge and meaning.

Semiotics, as originally formulated by Saussure and Peirce is particularly useful in understanding the weakness in the notion that language is a passive medium of representation. Semiotics, above all, explores and elaborates upon the ways we actively shape and interpret signs as *Homo significans*—meaning makers. The world doesn't come to us pre-packaged in parcels of meaning, knowledge, or value, and that we never make direct, uncomplicated contact with the materiality of nature as pure, unsullied, uncategorized material. The moment we engage language and divide up the materiality in terms of atmosphere, ozone, dirt, cows, cars, and so on, they are now framed in discrete categories, and culturally and historically loaded with meaning. It is true that "it is not language that has a hole in the ozone layer" as some have argued against

the use of linguistic tools of analysis.[188] But as linguistic and semiotic creatures, we cannot help but divide up and establish modes of reality whether they be the atmospheric inquiries themselves, or the interpretations we bring to bear on the scientific data as it relates to the life and the future of the planet. The meaning of those divisions are, in one sense, determined by their relations among other signifying terms within a culture, and in another sense, dependent upon the material constraints of the buzzing, blooming confusion. What semiotics offers to such problems are, of course, not practical solutions for "saving the planet" through some mandate. What semiotics does supply is a level of analysis that allows us to think about the shaping role of language surrounding the discourse of environmental concerns. It is tempting, but ultimately too simplistic, to imagine that the sociolinguistic conventions of environmental problems are only the scenery or background against which we decide how to act. Environmental discourse itself is inextricably bound-up in sociolinguistic productions. Therefore, we must attend not only to what language says, but to what it does.

At the institutional level, the "doing" of environmental language requires the utmost scrutiny. For example, The National Environmental Policy Act, or NEPA, as I argued in the final chapter, systematically invokes a particular ethical framework thereby setting out in advance, a domain of possible environmental value. The problem is that as NEPA claims to promote the consideration of a variety of quantified and unquantified values whereby environmental interests can all be equally assessed, it combines deontological and utilitarian theories. NEPA not only conflates important differences between the two theories, it colonizes non-quantifiable values through the rationale of cost-benefit analysis. NEPA, it turns out, fails to provide a genuine opportunity for non-commodity values to be articulated on moral grounds without use-value assessments dictating the field of linguistic possibilities. Under such value language hegemony,

[188] Soper, *What is Nature?* p. 151.

NEPA enacts a foreclosure on ethical judgments as no longer useful in the process of environmental policy making.

Fortunately, even though responses to environmental inquiries can be twisted into economic value language—a position anathema to moral arguments—we can, when attendant to language and the structure of metaphors, shift the discursive configuration to allow for a legitimate plurality of ethical positions. The fields of linguistic possibilities are continuously generated, contoured, and given voice through history and language itself. As Bickerton observes, "Linguistic constructs enshrine the common purposes of a society."[189]

Norms and trajectories become embodied in speech and become almost invisible. But in between the world and words lies an expanse of resistance, hopes, and values. There may be a forgetting of our authorship in the human world, but there is no escaping the fact that we are *Homo significans*. The extent that language matters to environmental philosophy is its ability to allow us to remember that language is that in-between space where we must continually negotiate environmental relationships and there is no relief from this. When we allow ourselves to remember, Hayles points out, "[we] can make the double move of turning outward to know more about the world because it also turns inward to look at how one's own assumptions are constructed."[190]

[189] Bickerton, *Language and Species*, p. 252.
[190] Hayles, "Searching for Common Ground," *Reinventing Nature?* p.61.

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