ADAPTIVE RHETORIC: EVOLUTION, CULTURE, AND THE ART OF PERSUASION

By

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This work presents a case for the biocultural study of rhetoric. Following in the tradition of E.O. Wilson’s ‘consilient’ program of research into evolution and the arts, I combine the study of biology and culture to create a more complete view of rhetorical theory and practice. This approach entails two related ideas. First, that the human brain evolved to meet the environmental challenges it faced during its period of greatest expansion – the Pleistocene epoch, when it tripled in size. Language, culture, art (including the art of persuasion) are behaviors that help us adapt to our needs as social animals, and must be considered when studying rhetorical practice. A biocultural view emphasizes both specific historical practices shaped by culture and the constraints our physical bodies place on us as rhetors. The second idea a biocultural approach entails is that animal rhetorics should be viewed as analogues or even evolutionary precursors to certain human persuasive activities, allowing us to gather information about the origins of these activities.
A naturalistic view of rhetoric is not alien to the discipline. It has merely been neglected in recent decades. Classical rhetoric provides many examples of naturalistic inquiry and inklings of what today is called a biocultural approach. Even some modern rhetoricians, like Kenneth Burke and George Kennedy, have based their views of rhetoric on knowledge gained from evolutionary biology.

It is thus important to reconcile rhetorical theory with current work in the life sciences. I argue that animal signaling theory is a useful starting point, and that the art of persuasion is a special type of animal signaling. Human rhetorics are heavily dependent on our ability to attribute feelings and beliefs to others, what evolutionary psychologists call our theory of mind. The final chapter of this work applies key concepts from evolutionary psychology to the rhetorical canon *memoria*, in order to demonstrate the utility of this biocultural approach to rhetorical theory. This offers us a more complete picture of rhetoric as a set of behaviors guided by both nature and nurture, allowing us to see beyond what is often presented as a rigid dichotomy.
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Introduction

One of the great challenges to interpersonal communication is that sometimes people only hear what they want to hear. When I first began outlining this dissertation, I explained to one of my fellow graduate students what I wanted to do. I told him I would be exploring the ways we can examine the influence of both biology and culture on the art of persuasion. After running through most of my stock examples demonstrating biology and culture cooperating or competing to guide human action, telling him about some of the intriguing work being done in the fields of ethology and evolutionary cognitive psychology, and referencing some of the more popular ‘big idea’ books on the interplay between genes and culture, my fellow student thought for a few moments, then, with a look of concerned semi-revulsion on his face replied: “Wow. Biological reductionism. That’s gonna be a hard sell!”

Whether it is a fundamental part of human nature to divide issues in half and only allow for one of those halves to be valid, or good, or moral, this seems to be one of the tricks our brains use to navigate the world of ideas. We also use this method of bifurcating topics to bring others around to our ways of thinking. The rhetorical term for this is dialysis: the presentation of an either/or figure to lead an audience to a certain conclusion (and in the case of biology and culture, it is also a false dilemma). Often we make the alternative to our preferred conclusion unappealing. As my dad used to say when I would complain about the toppings he ordered on our pizza: “You can eat this or you can eat nothing.” To a growing boy who did not yet have a job of his own, this was a fairly compelling argument. However, the real lesson I learned was not to accept what I was given, but how to be sneaky about picking off the green peppers.
While this story has little to do with rhetoric, per se, I share it because it is analogous to my early efforts to explain a biocultural paradigm for the study of rhetorical theory. As I would attempt to describe my work as paying heed to the combination of social and physical forces, many people would resist the idea that biology had any place at all in the study of rhetoric. Or else they would smile and nod, and as they walked away they would pick off the biological aspects of my argument like so many unsavory pieces of green pepper disturbing an otherwise tasty offering. They thought I was presenting an either/or situation, while what I really wanted to do was break down the harmful dichotomy already present.

Rhetoricians have split the causes of persuasive behavior in twain and labeled one of these aspects taboo. This is understandable, considering what real biological determinism can mean if applied to social ends – it becomes justification for the predatory nature of exploitative ‘social Darwinists.’ But Charles Darwin himself would have been shocked by this immoral use of his theories. A non-confrontational man, he made himself ill with anxiety about how people could misread his work, and how it might offend. But it is not necessary for anyone who accepts evolutionary theory to ignore the effects of culture. The vast majority of modern researchers working under an evolutionary paradigm do so with full knowledge that culture is one of the ways humans adapt to their environment, and that humans would not have evolved as they are today without the demands created by their highly social natures. Language itself would have been unnecessary if humans had not found success as gregarious animals rather than isolated individuals. Moreover, there would be far fewer reasons for us to employ rhetoric if we had no other members of our tribe to persuade.
This leads me to the thesis I will argue in this dissertation: that the art of persuasion is a series of behaviors that are the products of both biology and culture, and that we must study them with both of these forces in mind. To better understand the art of persuasion, rhetoricians need to closely examine both cultural and biological influences on human behavior, which requires us to examine the evolved mind as the production point of behavior, and the nexus where culture and evolution meet. Because the human brain underwent its greatest transformation event around 200,000 years ago, many of our biological predispositions reflect our need to cope with our evolutionary environment – the African savannah of the Upper Pleistocene epoch. Culture is a more responsive force, one that fine-tunes the more permanent changes natural and sexual selection create.

To use a common computing analogy, we can think of our genes as the hardware that establishes the abilities and limits of our behaviors, while mind is more like the software that takes advantage of the vast computing power the human brain has at its disposal. Culture, in this metaphor, could be thought of as part of our virtual environment – a behavioral internet, if you will. The hardware sets the parameters for behavior – for a personal computer, it allows us to run word processing programs or play games, while another hardware configuration might be good at directing robotic arms to assemble automobiles. The software cannot escape these basic physical limitations, any more than it can operate outside its natural environment. If humans of one culture suddenly decide they can fly, for instance, when they choose to act on these beliefs, that culture will quickly meet both the limitations of their mental software and the ground. Behavior and cognition are constrained by the physical make-up of the human body and, moreover, by the physical environments bodies inhabit. It is also the case that the amazing brains
we have developed allow for a vast range of behavioral expression within these rules. This is why we see so many different ways of interacting with the world around us, represented by the vast number of cultures and sub-cultures humans have created.

These two components – the social and the biological – must be considered if we are to form a realistic picture of how human persuasive behavior works. This dissertation will be a step in that direction, laying the groundwork for a program of study that I call Adaptive Rhetoric. Much of the first part of this dissertation will be my representation of how I struggled toward a working definition of rhetoric – something every rhetorician is expected to do before his or her arguments will be taken seriously in this field. In Chapter III I will define rhetoric as the intentional communicative act of an animal whose purpose is to inform, or to manipulate the behavior of, one or more members of a real or imagined category of hearers called ‘audience.’ This is an adaptive behavior. What this means to biologists is that the trait increases an individual’s chances of passing down copies of its genes to the next generation; usually this entails living longer or breeding more often or more successfully. Adaptive traits can be physical, such as our canine teeth that help us cut meat, so we do not need to rely on vegetable matter alone. More interestingly for this study, though, adaptive traits can also be behavioral. I argue that the act of persuading others is a set of adaptive behaviors that allow animals to avoid costly conflicts, to organize themselves, to coordinate actions like hunting, and to communicate desirable traits to potential mates. Rhetoric has the potential to help us pass down more genes, and so our ancestors who practiced rhetoric have out-competed those who did not; they out-competed them to such a degree that there are no longer any healthy, normally-developed individuals in the human race who lack the capacity for persuasion.
Studying rhetoric using a biocultural paradigm exposes areas of study that have remained untouched for decades. Using a biocultural approach allows us to carve rhetoric at its joints, in order to discover the automatic processes we take for granted in our everyday persuasions. These processes are where biology hides, exerting its subtle influence, while culture propels us in more obvious ways. It is thus necessary to go back to basics and attempt to define a quantum of rhetoric, to examine what it is rhetoric does, and whether it is an adaptive behavior. Thus, the first part of this dissertation will accomplish three goals: it will establish that a naturalistic approach, one that maintains that biology is a necessary aspect of rhetorical study, is not only not alien to the discipline, but is a foundation in the history of rhetoric as a formal subject; it will argue against the harmful dichotomy of nature and nurture that I alluded to above; and finally it will argue that what I am studying is both rhetoric and adaptive, allowing me to formulate the definition of rhetoric that guides the second half of this work.

In Chapter I, I argue that naturalism is traditional in the study of rhetoric. From its inception, the formal study of rhetoric has incorporated both social and biological forces into its scheme, a trend that continues well into the mid-20th century, at which point explanations for human behavior that included biological constraints were expelled from many disciplines. This situation has remedied itself in almost every other field of study by now, but not rhetorical studies as practiced in departments of English. Naturalistic studies of rhetoric can be both useful and dangerous, if we are not aware of the possible results of certain assumptions, as the Athenian tradition was not. Thus some of the naturalism of classical rhetoric could be viewed as immoral social Darwinism in today’s parlance.
I define a naturalistic worldview as an attempt to view humanity as existing on a network of common ancestry with other living creatures, one that acknowledges the constraints of biology on behavior. A naturalistic worldview in our ancient past would stress the importance of worldly life over that of otherworldly deities, and in some cases it might even ring notes familiar to those who are aware of the modern notion of gene-culture co-evolution. This definition, while specific, leaves room for multiple naturalistic expressions of theory to exist. Thus I divide my argument into two main examples: how rhetoricians used nature to make their cases, and how rhetoricians’ views reflected nature. The former describes using nature in three main patterns of justification, civilization, and judgment. The latter explores how the folk psychology (what Daniel Dennett calls ‘common sense’ judgments that may or may not accurately explain human impulses or behaviors) of our ancient authors could accurately describe certain persuasive behaviors.

In Chapter II the one-sidedness of modern rhetorical theory is exposed. Social constructivism has contributed many useful ways of viewing rhetorical acts, like Bizzell’s work on discourse communities, a concept she applies in order to overturn the compositionist approach to writing instruction,¹ or Nystrand’s famous essay on speech community in linguistics.² However, this social constructivist work focuses on a single dimension of human behavior, and is therefore an incomplete picture of how rhetoric works.

Much of this social tunnel vision stems from the age old division of nature and nurture as opposing explanatory models. I argue that we need to break up this false dichotomy we present ourselves when we say only nature or only nurture caused this behavior among humans. Human

culture is a product of human genetic evolution and cannot be treated as somehow disconnected from it. Without the cognitive structures that enable learning and language, culture would not be expressed in the myriad ways it is. Likewise, as a social species, humans cannot thrive without the influences of other individuals. Only in some very sad cases throughout history have we been able to study human beings who developed without the influence of human culture, and most of these children suffered from various mental or physical problems resulting from abuse or neglect. It is difficult to imagine a functional human being who has not been shaped in part by his or her culture, and to claim that nurture plays no role in shaping behavior is as short-sighted as claiming the same of biology.

This suggests a middle ground must be found. Here I appeal to the legendary entomologist E.O. Wilson, who has proposed a new way of looking at all aspects of human and animal life, through what he calls a ‘consilient’ paradigm, which literally means a “jumping together” of two or more modes of inquiry under an evolutionary paradigm.\(^3\) Consilient studies have taken hold in most disciplines in the social sciences (such as psychology, economics, and anthropology) and are making headway in humanities fields, as well (for example, literary studies and film studies). The field of rhetoric and composition has yet to embrace this paradigm, in which the insights of humanistic and scientific study contribute equally. The rhetoric of science has heretofore consisted solely of poaching, or appropriating the magisteria of other disciplines and subjecting them to one’s own methods. Adaptive Rhetoric, on the other hand, suggests an equal partnership. It is the rhetoric of science and the science of rhetoric working together.

Chapter III begins the process of negotiation, then, between the methods of rhetorical theory and those of the life sciences I hope to adopt. While subjects like biology are well-established in the minds of biologists, the growing scholarship on the rhetoric of science, among other ‘science studies’ fields, demonstrates that there is some negotiation going on here, that biology is not a set subject with set methods, but a template that can bow to negotiation. Rhetorical theory, on the other hand, has long acknowledged its amorphous interdisciplinary domain, requiring (or enabling) each new rhetorician to define the field as he or she sees it.

Therefore I proceed cautiously in working toward a biocultural definition of the art of persuasion. I ask what is adaptive about Adaptive Rhetoric and what is rhetoric. If the phenomena I study are rhetorical, then there must be some essence of rhetoric that these actions contain. Is there a quantum of rhetoric, a smallest self-contained unit that we can point to and say, “Aha! There is a rhetoric!”? Or can a spongy subject like rhetoric not be pinned down so easily? Is it like the maxim about pornography, that it is impossible to define, but you will know it when you see it? This might be the case, but that does not prevent us from coming to some important conclusions about what rhetoric is and does. What I argue is that rhetoric, as I define it in the third chapter of this dissertation, is indeed adaptive; moreover, it is a special form of animal signaling, which lends itself well to ethological description.

This leads me to the second part of the dissertation, wherein I argue that animal signaling theory can enrich the study of rhetoric, that the art of persuasion relies upon a healthy theory of mind, and finally that I can demonstrate the need for a consilient study of rhetoric by subjecting one of its very canons to a biocultural analysis. Thus the final chapter is the culmination of all I

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have argued in the first five chapters of this work, and serves as a road map for future study into the many research gaps a biocultural approach to rhetoric helps us identify and, eventually, fill.

The topic of Chapter IV concerns rhetoric’s status in comparison with the treatment of animal communication in the life sciences. A wide variety of animal signaling theories have been put forward over the last half century, and I endeavor to lead the reader through a brief summary of the major ways of viewing cross-species communication. I argue that rhetoric is a special form of signaling, which sometimes takes the form of what is called a ‘costly signal’ (because there is a price to be paid for making it, rendering the signal less likely to be deceptive), but is most often an attempt to manipulate other individuals. Another way rhetoric differs from other forms of signaling is that it does not include the ‘structures’ that have evolved to physically manipulate others. This does not deny visual rhetoric – in fact, an important thing to take away from this chapter is that rhetoric is not merely linguistic – but makes certain we distinguish between intentional visual displays and the unintentional aftereffects of natural or sexual selection.

Aposematism (“warning signaling,” such as bright coloration in poisonous frog species), while effective, is unintentional. Even what biologists call ‘Batesian’ mimics, whose bodies come to resemble those of toxic species even though they are not toxic themselves, are not examples of animal rhetorics. Their persuasive qualities originate from physical structures selected by nature. However, when animal behavior directs these persuasive efforts, no longer passive warnings but actual threat displays, such as a crab raising its mighty claws to ward off intruders, then we have stepped into the realm of Adaptive Rhetoric, wherein individuals of various species decide whether, and how, they employ their signals. While the peacock’s tail is potentially rhetorical, it is not until he deploys it that the peacock is acting rhetorically.
Animal signals can be honest or deceptive, but among animal species that live in small groups that cause an individual to cultivate a reputation among his or her peers, deception has to be relatively rare. There are multiple reasons for this. From the point of view of the individual signaler, if one is found to be a perpetual liar, one is not likely to be believed for very long. The parable of the boy who cried “Wolf!” is an early lesson in this concept for the benefit of human children. From the standpoint of natural selection, it is also unlikely that a highly social species would have evolved communication if it was not often honest, because it would do an individual little good to listen to signalers who were only out to trick them.

Animal signaling can offer meaningful analyses of human behavior, as well. In Chapter IV, I relate a study by Rebecca Bliege Bird that helps us understand the irrational behavior of Meriam turtle hunters and spear fishermen who, it turns out, use inefficient methods of food collection to increase their individual reputations among their people. Their activities are costly signals that demonstrate some fitness quality or qualities. Research such as this allows us to see how the study of human behavior in terms of animal behavior in general can help us overcome our dualist nature/nurture, artificial/natural biases. We enhance our understanding of human life when we treat it as we would treat the abilities and challenges of any other species. While most of us allow that other people are thinking, feeling beings, it is an unfortunate fact that even some professional ethologists are wary of declaring that animals think or feel in any comparable way to a human being. While professional caution is commendable, we do a disservice to animals and can be led to ignore their mistreatment by not extending to them the benefit of the doubt.

In Chapter V the concept of theory of mind (ToM) – simply put, understanding that others hold beliefs, desires, feelings – is introduced as a necessary precursor to the art of
persuasion. Rudimentary forms of ToM are probably necessary for any form of complex communication to arise. The idea that other individuals are more than mere objects allows communicators to interact with others and negotiate meaning in good faith. For rhetorical acts, ToM is essential: we must first imagine there are beliefs in someone’s mind worth changing if we wish to actually persuade them to change those beliefs.

Combining my argument from Chapter IV with the ideas put forth in Chapter V, it becomes clear that the study of rhetoric is at its heart the study of manipulating the attitudes, attention, and ideologies of others. Human cooperation and competition are inextricably bound to rhetorical action, and elaboration of current research in evolutionary cognitive science could illuminate rhetoric’s ties to joint attention and theories of mind. One avenue of exploration that can be extremely rewarding is further investigation into the construction of audience. I sketch a preliminary view of how we construct that thing we call ‘audience’ at the end of Chapter V, but it is a topic that deserves further investigation.

Having argued that a natural approach is both normal and necessary to the study of rhetorical theory, that we need to break down harmful nature/nurture binaries, that rhetoric is an adaptive trait and a special form of animal signaling, and that the entire process relies on the formation of a healthy theory of mind, we reach the point where the arguments of the previous five chapters must be tested against the constraints of the theory of Adaptive Rhetoric in Chapter VI, in order to demonstrate that a biocultural view of the art of persuasion can indeed enrich the traditional scholarship. In order to accomplish this, I have selected one of the five canons of rhetoric – *memoria*, the fourth canon – as my test case. Memory is particularly apt for multiple reasons. It is entrenched in the discipline, pervading rhetoric in both classical and modern
contexts. Its study has witnessed a significant decline in prestige since the transition from rhetoric as being primarily oral and performed to the modern trend of pre-recording rhetorics for later consumption. Memory is not only a product of the evolved mind, as all of the canons are, but it is particularly mind-dependent.

What I mean by this last point is that in many significant ways we are the products of our memory, just as the products of our memories are in many ways what makes us us (and our rhetoric is the product of these products, but this statement will become clearer as Chapter VI unfolds). Classical authors understood through careful observation that memory is not merely a device for recording and reciting facts. While they did not understand the processes behind the inner workings of memory – and on some levels modern scientists are still grappling with this problem – they had significant insight into some of the ways memory functioned, as well as how to exploit memory’s idiosyncrasies.

Many modern rhetoricians have expanded the scope of memory studies to include group or social memory, external memory, and memory therapy. Yet, as a discipline, we often approach memory in the uncritical way of folk psychology; we rely on the ‘common sense’ understanding of memory we inherited from our intellectual forebears rather than attempting to first grasp the mechanics of memory that neurobiology now affords. I argue that viewing memory only in a humanistic frame is like trying to understand the motions of the planets without resorting to all those tedious mathematics. As a remedy, I offer up a re-reading of memory scholarship – focusing first on the classical traditions, then commenting more generally on some modern innovations in rhetorical theory – based on the relatively recent findings of evolutionary cognitive psychology.
Most germane to Adaptive Rhetoric are the theories stemming from the research program known as grounded cognition (a.k.a. embodied cognition), which treats the human mind as something neither unnatural nor in any way disconnected from the human body. This allows for an interpretation of mental activity in terms of the physicality of being human. As our brains cannot exist in isolation – the common science fiction image of fully functional brains residing in jars notwithstanding – they should not be treated in isolation. They are, in fact, in constant interaction with our body chemistry, our sense organs, and the external physical world.

This application of theory I undertake in Chapter VI is by no means an exhaustive treatment of the benefits a biocultural approach can offer to that single canon. However, it is only meant to be representative of the future contributions Adaptive Rhetoric could make to the field of rhetorical theory. Further work must be done, and there are many directions consilient studies of rhetoric can take in the future. However, every new paradigm requires a beginning – a first step down a dark passage populated with unknown obstacles and unseen resistance. We undertake such trials in hopes that we might find something new and valuable that will light our way toward further discoveries, perhaps illuminating one more idea along the way toward understanding what it means to be a persuasive animal, one that is gifted with, and sometimes blinded by, the wonder of complex language use.
Chapter I: Classical Naturalism

I. Introduction

Before I can apply a biocultural approach to rhetoric, it is important to remind readers that a naturalistic view of human behavior (like the act of persuading others) is neither new nor alien to the history of rhetoric. There is some question whether this slant is still valid. I have argued previously that the approach is appropriate and useful, but an argument does need to be made for verisimilitude – whether it is historically appropriate to attribute naturalistic views to ancient thinkers. Even though it is commonly forgotten among modern rhetoricians, a naturalistic worldview has been, for most of the history of rhetorical theory, the norm. It is only recently that rhetoric has strayed as a discipline, and this is in many ways attributable to the understandable reactions rhetoricians have demonstrated to some particularly immoral applications of science in the mid-20th century. What we must remember is that science, like rhetoric, is a human technology that (as with any other technology) is prone to use and misuse by the human beings who wield it. The blame falls on each individual involved in the misuse, not on the tool itself.

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We cannot avoid rhetoric because it can be used for harm, no more than we would avoid a hospital because some medical doctors have hurt people in the past by subjecting them to unethical experiments. Even if Luddism was possible for the modern human being, and I am with Walter Ong in believing that it is almost impossible in most of the western world, it would be irresponsible of scholars to ignore new developments in fields whose work can contribute to our own understanding of human biology and culture. It is my goal, then, to revive classical naturalism in a modern context by recalling the importance of a naturalistic worldview to the classical rhetoricians, whose contributions still hold powerful sway over modern rhetorical theory. This will, I hope, demonstrate that the more modern forms of naturalism that adherents of evolutionary approaches to rhetoric espouse are a “natural fit,” if you will, with rhetorical theory. They are both appropriate and euchronistic. Moreover, rhetoric and naturalism are inextricable one from another.

II. Appeals to Nature in Classical Rhetoric

“In rhetoric, art not only imitates, it re-creates nature.”

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There are two important ways classical rhetoricians relate to the natural world. The first is a question of how they use nature; the second is how they are nature, or at least parts of nature living in a prescribed environment. Regarding the idea of using nature, a system of three patterns will serve as a heuristic for this exploration. What it can help explain is how animals and nature have been set up as examples to describe and justify rhetorical theory since the very beginnings of rhetorical theorization. And no wonder – naturalistic approaches can never wholly leave humanistic study because there is no other permanent point of reference for the human experience: we are a natural species in a natural world, engaging at all times in natural activities. The production and transmission of culture is but one human universal among many, and the products of human culture are as natural as the products of any other evolved being. The idea of an unnatural is, paradoxically, unnatural and is often no more than an excuse to allow personal and group biases to serve as justifications for oppressing others who do not fit the ‘natural’ order of things.

II.1 Patterns of Civilization

It is fitting, then, that the first pattern of use I explore is the pattern of civilization. This pattern identifies a trend among classical rhetoricians toward using examples of animals and nature in exhortatory fashion: ‘Because these animals are good, and these animals are natural, this is how one should act if one would like to be good and natural.’ However, this pattern is often used negatively as well, especially in the tradition of philosophical geneses or explications of natural law. Often little more than ‘just-so’ stories, there is a long history of explaining the origins of the targeted human endeavor (for instance, the practice of rhetoric or philosophy) as
that integral component of humanity that separates us from the ‘lower beasts.’ The examples I provide below are representative, not exhaustive. The form these social origin stories take is often the same, but their content can vary widely.

I will begin in medias res because the Hellenistic philosophers were so insistent and consistent in their need to appeal to nature to justify their philosophical systems. That this could represent a serious error of category did not occur to most ancient thinkers – ‘what is’ and ‘what ought to be’ were often considered one and the same. Nothing demonstrates this better than the two very different conclusions Zeno and Epicurus came to in their separate analyses of animal altruism. Each one observed that in nature animals often help one another at their own expense, in order to benefit the species or group as a whole. Epicurus took this to mean that we should free ourselves from political bonds and complex society, in order to not need such sacrifices of ourselves or our fellows (VS 58; KD 14). Conversely, the founder of Stoicism read this same situation as a recommendation for the vita activa. Because the animals that lived in packs or tribes had fellows to help them out in hard times, they were more apt to thrive. Humans are an example of such social animals, so we should live according to our nature (oikeiosis). Thus the early Stoics concluded that the sage should attempt to guide his city’s future as a governor on the ship of state.

Cicero, thriving at the tail end of the Hellenistic era, benefitted from these examples, as well as those of the members of his own school of philosophy, the Academic Skeptics. A clever

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9 What we call the naturalistic fallacy or, in a traditional ironic formulation, mixing one’s ontology with one’s teleology.


11 The masculine pronoun is used almost exclusively in this essay – not as a matter of preference, but for accuracy, as it reflects the realities of Greek and Roman politics.
synthesist, Cicero often employs a single example for various tactics. In his first rhetorical
treatise, he follows Isocrates in suggesting that persuasion was responsible for “the
domestication of the human animal” (Inv. rhet. I.i.2). Over forty years later when he wrote the
dialogue De Oratore, Cicero has Crassus mouth the same sentiment, nearly word for word (I.30-5).
This sort of consistency is rarely achieved by a thinker whose rhetorical works are separated
by as many years as Cicero’s.

However much Cicero’s rhetorical theory had changed over time, it is worth noting that
we are able to connect the idea of a naturalistic explanation for the origins of society throughout
his body of rhetorical and philosophical work. His appeals to nature in De Inventione and De
Oratore mirror those found in his best known philosophical exposition, De Officiis. In Off. I.4,
Cicero uses his theory of the origins of civil society to justify his outline of natural reason, a
concept tied intimately to his conception of persuasion. The civilized man would, through use of
his highly-developed mental abilities, seek society with his fellowmen, develop love for his
offspring, and nourish and support his family and those he is bound to protect. It is this natural
reason that allows society, formed on the basis of rhetoric, to thrive.

While Cicero may have based his story of society’s origins on that of Isocrates, his
predecessor did differ on at least one point. Isocrates does not draw a line between natural reason
and persuasion. Rather, he says that it is speech alone that separates man from animals; not only
does speech separate man from animal, but civil society originates and subsists therefrom
(Nicocles 6-7). All of goodness and civility is due to speech, as is much of humanity’s evil and
antisociality. As we shall see from a discussion of Plato’s and Gorgias’s characterizations of

12 Translations are mine, unless otherwise noted.
rhetoric below, persuasion is a potent tool that can do great harm or good. Both Cicero and Isocrates were aware of this power.

II.2 Patterns of Justification

To acknowledge the power of a natural rhetoric, in the eyes of many classical authors, is just the beginning. We must also consider their patterns of justification when appealing to nature, in order to understand how important these appeals are for them. Plato’s Callicles in the Gorgias is used as a straw man representing what Socrates sees as the Sophists’ lack of moral compass. Callicles maintains that rhetoric is a tool one should use to get one’s own way, the truth being irrelevant to the act of persuasion. Moreover, notions of right and wrong are conventional only, not supported in nature.\(^\text{13}\) Truly, in this case, the charge of sophistry is just (if of questionable accuracy in representation). For Callicles’s conception of ‘natural justice’ rings the hollow tone of Social Darwinism to the modern reader. He uses his conception of natural justice to rationalize the strong seizing power from the weak. Because we see this happen occasionally in certain animal behaviors, says Callicles, it must be natural. Because it is natural, it is good. Ironically, this naturalistic fallacy is much more fitting with Platonic formal thought than with sophistic ‘relativism.’\(^\text{14}\) To hold up a persistent natural paradigm as a representation of ‘the good’ shares a teleological or progressive approach with formalism that should raise alarm bells among all

\(^{13}\) Gorg. 483b, 487d, 492a-c.
\(^{14}\) Id. 483c-d.
moral animals. Famously, Karl Popper goes so far as to argue that the root of modern fascism lies in the totalitarian society devised in Plato’s *Republic*.

However formalism might seem to be a closer fit to Social Darwinism, or even modern fascism, Plato would be reluctant to adopt a naturalistic point of view (skewed in its application of natural examples, as Social Darwinism is). Plato challenged the Democritean view of human evolution from animals, shared in part by unlikely bedfellows Anaximander and Protagoras, “through his argument for the excellence inherited by a few men as sanction for an authoritarian educational and political system.” Although Plato claims a true philosopher king would be benevolent, he would still be a king, and his inspired character would somehow separate him from lesser beings. An evolutionary model for an ideal society would likely recommend a more egalitarian human social world, where resources are shared reasonably fairly between group members, and cheaters are monitored by their fellows. Marx, an admirer of Epicurean egalitarianism as well as Darwin’s theory of evolution, realized this when he suggested that ancient societies yet had the opportunity to live communally, without the mass accumulation of property by individuals or family units.

Whether Plato’s artificially hierarchical view is the sort of thing Erasmus meant when he developed further the Ciceronian ideal that we find the ends of rhetoric in nature, one can only speculate. To Cicero, justice is natural in humans, implanted “by some kind of innate power”

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17 I come to this conclusion based on the fact that humans are a social species. Our success in our evolutionary environment depended heavily on our ability and willingness to cooperate for the good of the group, which ultimately benefits the individual cooperator.
(quadam innata vis) – that is, justice is instinctual.\textsuperscript{19} Natural law is an enduring concept because of its utility; one can find an example in the animal world of almost any imaginable behavior, and once one does, one can easily justify that action by means of calling it ‘natural.’ Aristotle treads dangerously down this path when he uses this pattern of justification to rationalize acting on desires. Because nature does not allow us to desire that which is not possible, we should not hesitate to act on our desires (Rhetoric II.19). No mention is made here of the good or the just, perhaps because it is merely assumed that rhetoric is useful because true and just things naturally prevail (I.1355a).\textsuperscript{20} Once again, nature is used to justify any conceivable action one cares to take. It is a universal antidote to all challenges to authority and moral rectitude.

These patterns of justification are not only troublesome, but also ubiquitous. Using the blind processes of nature to prescribe moral action is much like the medieval European custom of selecting Bible passages at random in order to guide future action. It is convenient, and easily manipulated. As Aquinas tells us, “That which is received is done so in the mode of the receiver” (quidquid recipitur ad modum recipientis recipitur) – whatever the reader wishes to take from a text is what the text will justify to him or her.\textsuperscript{21} When we opt, then, to treat nature as a text, we are apt to fall into the same traps.

Luckily there was a competing trend that fits within the patterns of justification, one that is hostile to notions of false rhetoric, aware that persuasion can be adapted to ill purpose. Gorgias, for example, tells us that rhetoric is like a drug:

\textsuperscript{19} Inv. rhet. II.xxii.65-7.
\textsuperscript{20} It could also be the case that anything that occurs in nature no longer exists in the realm of the probable, which is rhetoric’s domain. But this view inevitably brings us to an idealist/materialist impasse. If that which we do not sense does not exist, then the materialist point of view is untenable, and the entire enterprise of science is misled. Let us proceed around this basic philosophical entanglement.
\textsuperscript{21} Summa Theologiae, 1a, q. 75, a. 5.
For just as different drugs dispel different secretions from the body, and some bring an end to disease and others to life, so also in the case of speeches, some distress, others delight, some cause fear, others make the hearers bold, and some drug and bewitch the soul with a kind of evil persuasion (*Hel. 14*).  

Gorgias uses intoxicating persuasion as his most potent argument to free Helen of blame in this famous encomium that rubbed against the grain of public opinion. Because rhetoric has the power to intoxicate an audience, the listener is no longer responsible for her actions when under its effects. Smooth-talking Paris was able to employ his false rhetoric to coax the married Helen into a craft bound for Troy. In what might represent the worst hangover in history, Helen awoke later to realize that she had played an integral part in prompting a war that lasted a decade and ended in the destruction of her new home, not to mention the loss of many human lives. To Gorgias, this was a shameful misuse of a powerful art.

Plato, too, denounces (false) rhetoric in what is ironically his own highly successful display of (false?) rhetoric in the *Gorgias*.  

By condemning the ‘relativistic’ rhetoric of the Sophists – a loose collection of ancient teachers who largely would not self-identify as members of a group – clears the way for his theory of true rhetoric in the *Phaedrus*. In the *Gorgias* rhetoric is not treated as a drug (Gorgias’s actual comparison), which is potent but can be used for both good and ill. Rather, Plato has his Socrates liken rhetoric to mere cookery; by dressing up unhealthy foods, they can be presented as wholesome (*Gorg. 465 B*). Potent drugs become

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impotent garnishing, and thereby human agency is removed – no longer can the rhetoric of the Sophists be employed for anything but foolishness or malice. It is not a choice to use rhetoric responsibly, for it cannot be put to good use.

II.3 Patterns of Judgment

Most ancient rhetoricians (and, as mentioned above, later Plato himself) would at least qualify this strong indictment of the art of persuasion. Indeed, the other major authors discussed in this study seem to find rhetoric quite useful for various purposes, such as finding truth or creating social harmony. Once it is allowed that the tools of suasion can be put to good use, nature can re-enter the conversation with its head held high. This brings us to our discussion of the final category of how nature is used: in patterns of judgment. By this I mean that rhetoricians used nature as both a benchmark of quality and as a source of talent. Two brief examples should be sufficient to illustrate these trends.

Rhetorical theory has a long tradition of looking to human nature to identify the root of rhetorical talent. Indeed, it was not until after the Second World War that the idea of human nature was seriously questioned, and only then by reactionary elements that were afraid that the idea of a unitary conception of what it meant to be human would lead to further racial or gender-based ‘othering.’ However, this is a case of throwing the baby out with the bathwater. The replacement for human nature, culture, is just one more human universal that helps make us human. To say *omnia cultura est* is to tacitly admit that culture is natural and universal. If culture

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is everything, then it is human nature to produce culture, as it is human nature to avoid or prevent incest or to associate facial expressions with emotions.\textsuperscript{25}

Human nature provides the necessary aptitude for rhetoric. To rephrase, all healthy individuals of the species are able to persuade others successfully from time to time. However, some individuals seem to possess a greater natural ability than others. We have all met the precocous children whose eye-batting earnestness earns them more often than not the toy or treat they desire. It is rarely through sophisticated argumentation that they achieve this level of persuasiveness; rather, they seem to be peculiarly good at pushing the correct emotional buttons in their elders. Isocrates said this natural ability to persuade others was the most important tool in the rhetor’s box (\textit{Antid.} II.187-8). Practice and education can enhance any individual’s effectiveness, but only those born with ‘the gift of gab’ could become the very best orators, and only through much difficulty. This theory was taken quite seriously by other classical rhetoricians, and the idea recurs today. Those who are judged to be fine orators are often suspected to be naturally talented, a judgment that may or may not be accurate.

The other example of a pattern of judgment is related closely to the naturalistically fallacious arguments above, regarding patterns of justification. Susan Jarrett helps illuminate this point when she argues that the First Sophistic’s taxonomical method, at least for separating \textit{Homo sapiens} from the other animals, was to assert humanity’s ability to make flexible social arrangements by means of the art of persuasion.\textsuperscript{26} Thus, a good rhetorician will be political. Famously, Aristotle concurs, claiming that “man is the political animal” (\textit{zoon politikon})

\textsuperscript{25} Cf. Brown, who lists about 200 traits that are believed to be shared across all human cultures. Donald E. Brown, \textit{Human universals} (Philadelphia: Temple University Press, 1991).
\textsuperscript{26} Jarratt, "The First Sophists and the Uses of History," 74.
(Politics 1253a10–1). Human nature is thus linked to a quality of character leading to the vita activa. Because persuasion binds society together, the best rhetor will be the one who is most able to engage successfully in political life. One can assume the converse holds true, as well: the worst rhetorician (and, perhaps, the most unnatural person) is the failed politician, followed closely by those who would not enter the political arena in the first place.27

III. The Naturalistic Worldview in Classical Rhetoric

Beyond these patterns of goodness, justification, and judgment I have described, one thing remains to be demonstrated in order to establish the importance of these classical rhetoricians’ views on nature: the ways in which they demonstrate what might be called a naturalistic worldview. In this case, since a wholly modern definition would be anachronistic and charged with historical problems irrelevant to these authors, I will define a naturalistic worldview as an attempt to view humanity as existing on a network of common identity (in terms of ancestry or trait-resemblance) with other living creatures. A naturalistic worldview in our ancient past might stress the importance of worldly life over that of otherworldly deities, and in some cases it might even ring notes familiar to those who are aware of the modern notion of gene-culture co-evolution.28 While the second section of this essay identified three patterns ancient rhetoricians employed to put nature to use, the following discussion will address how

27 This indicates quite clearly how Aristotle would have felt about philosophical movements perceived as purely contemplative, such as Epicureanism would be later.
they lived in a world where a naturalistic worldview and the art of persuasion were inextricably bound.

The first step toward creating a natural rhetoric is to deny the urge to yield control of rhetoric to the gods. One of the strongest moves to check the notion of religious determinism comes from Gorgias’s opera. His extant work reflects an attempt to restore agency to humanity by wresting the powers of bia (violence), logos (language), and eros (physical attraction) from the gods.29 This is most clearly exhibited in the Encomium of Helen. At Helen 6, we are told that if the cause of Helen’s betrayal of Menelaus was not the will of Tyche or the gods, there must be some other cause. Gorgias sets up a dialysis – an either-or dilemma – that forces the reader to acknowledge the formal transposition: “If B, then not A.” In this case, A represents divine intervention and B represents the three powers Gorgias wants us to believe are not bound to godly whim: compulsion through physical force, persuasion by language, and possession by love. Because these were the forces that potentially acted upon Helen in order to convince or compel her to leave Mycenae, they must be human forces, or else all is predetermined by powerful supernatural beings and human action is meaningless. Since rhetoric is Gorgias’s focus, he must free it from godly intervention; there can be no art of something that is controlled entirely by gods.30 Thus a naturalistic view of rhetoric must prevail.

As we know today, the naturalistic view is not wholly dominated by biological processes, but is a matter of competition and cooperation between biological and social forces.31 Yet, the

30 Indeed, Aristotle would have labeled these modes of proof atechnic, rendering all of rhetorical practice inartistic. Rhetors would not even be necessary without artistic modes of proof, as they would be reduced to soothsayers predicting the will of the gods, rather than forming arguments of their own.
31 Cf., among many others, Richerson and Boyd, Not by genes alone: how culture transformed human evolution.
division between nature and culture is not as modern as we might think. Most classical
rhetoricians used this division, despite antedating the modern terminology or discussions. Cicero,
when dividing his topics of equity, admits they are of two kinds (Top. XXIII.90). The first
accords to natural law, concerning topics such as territorial defense and personal vengeance, all
of which stem from some sort of innata vis ("instinct," or more literally "a power produced in
nature"; see above). The second pertains to institutional laws, which concern issues such as
compacts and customs that are socially constructed. The instinctual and the social are separated
as two distinct forces acting on an individual. Awareness of both is necessary to navigate
successfully one’s social milieu.

The issue is no more clearly demonstrated than in discussions of what makes the best
orator. In the first book of his Orator, Cicero has Crassus say that not only nature
(aptitude/talent) but also nurture (study and emulation) is necessary to make an orator great.32
Nature forms the basis of later study, perhaps as a sort of potential. Study and practice will
enhance what nature has bestowed. Richard Leo Enos explains that Cicero’s entire conception of
dignitas ("merit") is indeed a product of natural talent (natura), adaptability (prudentia), and
commitment (diligentia), though he unfortunately does not specify whether prudentia is a
product of nature, nurture, or both.33 Nonetheless, Cicero makes it clear (if not in such precise
terms) that the forces of biology and culture interact to form the complete orator. This line of
thinking can be traced back to Isocrates, who repeated it throughout his Antidosis and Against the
Sophists. “People can become better and worthier if they conceive an ambition to speak well,” he

32 This sentiment is repeated throughout Cicero’s opera, e.g. De or. II.xviii.
33 Richard Leo Enos, Roman rhetoric: revolution and the Greek influence (West Lafayette, Ind.: Parlor Press,
2008), 129-32.
writes, and it is through training and difficult study that those with natural aptitude can become the best orators.\textsuperscript{34,35}

Expanding on Isocrates’s work, Aristotle provides the most thorough expression of this co-evolutionary idea. As George Kennedy explains,

Aristotle had a deep interest in natural science, perhaps derived from his father, which led him to research in biology, a subject of little interest to Plato but which helped form Aristotle’s approach to ethics, politics, poetics, and rhetoric. He characteristically views the latter subjects as social phenomena that, like living organisms, develop natural potentialities into fully actualized forms… Aristotle was a realist, far more pragmatic [than his teacher, Plato], fascinated with the complexity and nature of human life.\textsuperscript{36}

Most modern biologists would struggle to frame their naturalistic views so completely, so eloquently. Through social processes, rhetoric is developed from natural potential. Imagine what might have become of his theories if Aristotle had somehow gained knowledge of contemporary technical terms such as gene and meme – in some basic and important ways they would be indistinguishable from our modern discussions of bioculture.

IV. Counterpoint and Conclusions

Of course, this glimpse of what I would call classical naturalism is not universal. Plato presents a strong challenge to my argument. In the *Phaedrus* we discover that true art depends on the speaker’s knowledge of not only nature, but also the soul. Despite a tempting point in the text where Socrates tells us that true arts require endless discussion of nature, and that Pericles supplemented his natural rhetorical abilities with his studies under Anaxagoras, we cannot forget that much of what Plato means by study is spiritual, metaphysical education (*Phdr.* 270a). This is wholly incompatible with most definitions of naturalism, including my own, and so must be treated as counter-evidence to any claims for universal naturalism.

While nature, to Plato and/or Socrates, reflects the ideal, it does so only in smoke and shadow (as he explains vividly in his famous Allegory of the Cave, *Resp.* 514a–520a). We will never see the true form of “cat” by looking at one example, but perhaps nature as a whole can instruct us through a broader study (say, of a large clowder of cats). Thus Plato’s use of nature is worthy of note, despite the misguidedness of attempting to attribute to him a naturalistic worldview. In many ways it is more provocative than it is apt to provide a basis for claiming that Plato’s philosophy is grounded in the natural world.

While there was likely not a universal sense of naturalism among classical rhetoricians, it should be evident that such a worldview was extremely widespread. There are degrees, of course, as the naturalistic worldview combines multiple drives: the will to diminish the necessity of divine intervention, the desire to understand the roots of persuasion as a behavior, the
recognition that art springs from human nature and that it can be cultivated and improved, to name a few. The notion that all ancient authors held all of these beliefs is naïve, but it is clear that some aspects of a naturalistic worldview are evident throughout the extant works of classical rhetoric. In cases like Aristotle and Isocrates, nature is utterly inextricable from the theory and practice of rhetoric. Indeed, if Gorgias is correct, there would be no rhetoric without the natural and earthly; if the art of persuasion is pre-determined by the whims of the gods, then it is no art, merely a spectator sport.

It is important for the modern scholar to remember that a naturalistic worldview helped to form the nascent formal art of persuasion in its ancient Mediterranean birthplace, and that it is now inextricably bound to our modern notions of rhetorical theory and practice. Being mindful of this past allows us to more easily rehabilitate nature in our modern theories of rhetoric, and it is essential that we do so. Because we have proceeded for the last fifty-odd years under a harmful bifurcation between “nature” and “nurture,” we must now apply the corrective. There is no culture separate from nature, and human nature is wholly dependent on human cultural practices to shape the behavior it produces. The ability to ‘nurture’ is part of our nature, and our capacities for forethought and intentional training would be impossible without the very large brains we have evolved. To say that all humans are subject to culture is to acknowledge yet one more universal of human nature – we are all subject to it because we were born humans instead of frigate birds. No matter how hard we flap our arms, we’ll still need to rely on the technology we were able to develop in an American culture that allowed such innovators as Orville and Wilbur.

I realize some readers will object to the idea that art behavior is a human universal, or that all normal developing individuals demonstrate its basic forms regardless of cultural identity. I would ask them to consider why, then, the desire to create art arises in all normally-developing individuals of our species, prior to any prompting or education. A fuller discussion of this phenomenon can be found in Denis Dutton, The art instinct : beauty, pleasure, & human evolution (New York: Bloomsbury Press, 2009).
Wright to flourish. However, in order for such a culture to exist, certain regularly developing neuro-cognitive mechanisms are required. Without the structures inherent in a healthy mind, culture does not exist, and we do not get to fly in our modern machines.
Chapter II: Nature, Nurture, and Negativity: Wilson’s *Consilience* and the Art of Rhetoric

In the previous chapter I argued that a naturalistic approach to the formal study of rhetoric is not only appropriate, but that it forms the basis of the discipline. Aristotle, especially, saw his work on biology and his work on rhetoric as overlapping enterprises. Had he known how modern work on animal signaling theory (discussed in Chapter IV) would support his claims, he might not have even bothered to divide his rhetoric, his poetics, and his works on biology. Unfortunately, Aristotle could not know. He had to work under the constraints of his time, but the modern researcher need not ignore the scientific advances of the intervening years. In this chapter I want to propel the argument forward by claiming that a naturalistic view is not only appropriate, but it is also worthwhile. I also want to suggest that a “consilient” approach to the study of rhetoric that combines cultural and biological influences is more appropriate than social construction or biological analysis alone (though I focus most of my effort on arguing against social constructivism, since this is the only one-sided ‘reductive’ paradigm rhetoricians tend to employ).

In order to argue for a particular form of naturalistic method of analysis – the biocultural paradigm – it is necessary first to pick up the pieces of naturalism that were abandoned or considered false starts by the rhetoric and composition community in the 20th century. The most widely known examples of each of these phenomena are Kenneth Burke’s use of neo-Darwinian evolutionary theory to mediate the nature/nurture dichotomy, and George Kennedy’s *Comparative Rhetoric*, wherein he makes an initial attempt to place rhetoric in an evolutionary context, even though he offends many by allowing it to be read as a developmental hierarchy. I
claim that nature and nurture are not dichotomous, but interconnected and inextricable. Yet an assertion such as this necessitates closer scrutiny of the thesis of this dissertation— that persuasion is a special form of communication (again, see Chapter IV) that is adaptive for humans and possibly other animals, so we need to study the biological as well as the cultural. This closer scrutiny will lead us to the third chapter, which breaks down the subjects of rhetoric and adaptive behavior to their component parts.

I. Consilience and the Evolved Mind

We have physical confirmation that our species has been practicing the art of rhetoric for at least 70,000 years. From evidence of artistic bead design to the even earlier hand-tool flourishes, designers have been shaping objects to make meaning, or to persuade others of their skill, for far longer than the written word has existed. For instance, the cave paintings at Chauvet, discovered in 1994, depict myriad creatures, including common prey animals, as well as predatory rivals to the Upper Paleolithic human beings who made these paintings and etchings.38 Many anthropologists suggest that these works of art were not made for their aesthetic beauty alone, but were used for magical rituals to gain power over the animals drawn with such careful detail. These rhetorical acts are documents of life 25,000 to possibly over 30,000 years ago in the south of France, yet they are never studied as rhetorical subjects. In fact, the earliest rhetoric

most rhetoricians even consider to be important is that of Athens in the 5th Century BCE. How can this be?

There are several reasons the discipline of rhetoric has focused so closely on the ancient Mediterranean. First of all, it is the birthplace of a formal system of study that did much to define the scope and depth of its subject and how future generations would view its theory and practice. It is also the case that ancient Greece, and later Rome, had developed distinctive social and political customs that allowed for the free exchange of ideas, and the dominant poleis were able to establish themselves as centers of Mediterranean trade. Trade brought with it contact from farther parts of the world, increasing the rate of cultural transmission in the Greek poleis – ideas, like rats, stowed aboard the trading vessels that traveled from port to port. Finally, with the innovation of democratic systems of government, a need arose in ancient Greek city-states for politicians who could persuade without resort to arms, and thus the art of persuasion flourished and spread.

It is true, then, that there are very good reasons to continue the study of classical rhetoric, but this does not mean we should neglect all that came before or in other traditions. Indeed, there have been many attempts in the last few decades to compare rhetorics of the Mediterranean to those of other cultures. Xing Lu has done considerable work on ancient Chinese rhetorics. Hussein Abdul-Raof has introduced readers to Arabic rhetorics, which are much concerned with matters of style. Baca and Villanueva produced a recent edited collection on rhetorics of the Americas, demonstrating the diversity of Pre-Colombian approaches that existed before the

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40 Hussein Abdul-Raof, Arabic rhetoric : a pragmatic analysis, Culture and civilisation in the Middle East (London ; New York: Routledge, 2006).
Western formal system arrived, and their study documented what could be considered the hybridization of American rhetorics. Studies such as these have met with some controversy, though their utility has rarely been questioned. Most objections concerning comparative rhetoric stem from the dangers of essentialization – that is, ‘all Lithuanian rhetoric has traits X, Y, and Z’ – or from the bias implicit in using Greco-Roman rhetorics as the standard mode of comparison. Careful studies will try to avoid this, or at least acknowledge the biases inherent in the work. (This dissertation, for instance, relies quite heavily on the divisions and methods of classical rhetoric, as do most studies performed by Western scholars. This fact will, rightly, color the reception of the study, or at least it will benefit the sensitive reader’s understanding.)

Limited pockets of non-Western culture have thus invaded the study of rhetorical theory; however, it is not enough, and it does not delve sufficiently deeply. The study of pre-literate cultures is limited to one major work in the field, that being George Kennedy’s *Comparative Rhetoric* in 1998 (although political anthropology has made some forays, such as Bloch (1975), of which rhetoricians are generally aware). Despite some objections that Kennedy imposed a developmental ranking system that placed non-European cultures at a disadvantage in his comparisons, this work broke important ground not only in cross-cultural studies of persuasion, but also in cross-species communication. While Kennedy did make the distinction between pre-literate and literate cultures, suggesting that literate cultures displayed more sophisticated

concepts, this is not a racially-charged progressivist view of evolution, a la Herbert Spencer. It is the rather mundane claim that literacy provides a richer communicative palette to work with.

If put in cross-species terms, rather than cross-cultural terms, few would disagree that our proto-linguistic primate cousins are more sophisticated rhetoricians than pre-linguistic mammals, such as rabbits. Again, this does not rank primates and rabbits on a scale of less fit to more fit; it merely describes the complexity of one evolved trait. Complexity is not the only end of rhetoric, and more complex does not necessarily mean better. The history of evolution is a four-color catalog of instances where originally useful traits (like the large rack of an Irish Elk) have led to an animal’s extinction. Whether runaway selection is at work in human communication is an interesting question, but an argument from complexity could be considered progressivist only in terms of the metaphorical ‘evolution’ of rhetorical practice, not the actual process of evolution by means of natural selection. These are very different forces.

Just as we should study the written rhetorics of literate societies, it is imperative that we dig even deeper to discover the cultural knowledge our ancestors built up to allow a ratchet effect for human persuasive acts. But we must recognize, in so doing, that oral narrative forms act as scaffolding for a more formal (and potentially more complex) written tradition. There is no implicit sense of perfection involved in arguments about complexity – natural selection works in such a way that the behaviors that currently exist are not the best for all times and places. Rather, they worked well in the environment in which they evolved. If these traits did not enhance fitness, their owners would have led a short life, displaced by those whose behavioral traits were better-suited to increase fitness. An evolutionary approach to rhetoric can make judgments about

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47 Cf. Ong, Rhetoric, romance, and technology; studies in the interaction of expression and culture.
the complexity of behaviors, it is true, but complex does not mean more efficient, or better. Nor
does it in any way lay out a goal, toward which ‘lesser rhetoricians’ should strive. If anything,
Kennedy is guilty of rhetorical, not evolutionary, progressivism – a charge of which any
rhetorician privileging more ‘sophisticated’ forms of argument is guilty. Since most of us have
taught composition courses at the freshman level, we might realize a little rhetorical progress can
go a long way. However, progress in this sense does not happen at the level of culture – it is a
marker of individual learning, which members of any culture could conceivably attain.

Much of what shapes the art of persuasion is cultural, and while we have identified the
primary mechanism for biological evolution (natural selection), scholars have yet to discover any
such mechanism for cultural evolution. While cultural transmission theories (such as memetics)
are growing more sophisticated daily, to claim that the fittest cultures will or will not survive on
the whole is to mistake the evolutionary perspective entirely. To understand human behavior, we
must take both our biology and our culture into account. Otherwise, we will only be getting a
partial glimpse of reality. An analogy might help demonstrate the value of a holistic view that
includes culture and biology in explanations of human behavior. Consider an environmental
scientist who would only admit evidence from marine biology, not any number of scientific
specialties that study the atmosphere and the ecosystems of land-based life, thinking that the
majority of our planet is covered by water, so the oceans must rule the environment unchecked.
Certainly, we can learn much from the oceans, just as rhetoricians can learn much from culture,
but it is nonetheless an incomplete view. Rhetoricians have more information available to us, so I
argue we should consider it carefully.
In order to address the research gaps created by a purely social view of the origins of human behavior, rhetoricians will need to take a broader view of life, one not limited merely to recent human culture. This will require adopting some methods from other disciplines, creating what E. O. Wilson calls a “consilient” study of human behavior. Humanists can benefit greatly from the information available from the human sciences, such as ethology, anthropology, and psychology, as well as from related fields of inquiry, such as literary Darwinism and cognitive literary studies. Rather than giving over rhetorical theory to these foreign methods, however, the idea of consilience suggests that the methods of science and the humanities all have their place; each discipline answers different questions more effectively than the other. From the sciences, we gain more reliable knowledge about the operation of the natural world, including the processes of the human mind that we have so far discovered. From the humanities, we are able to reach a more complex understanding of how the creation and consumption of art generates meaning for human groups and individuals. Both points of view are necessary if we want to hold a nuanced view of art, including the art of persuasion.

**Burke’s Negative and Mysterious**

Returning to the discussion of rhetoric, it is the work of Kenneth Burke especially that inspires a consilient approach to rhetorical theory. This is developed most fully in his definition

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of man (read: humans), which he made explicit in the *Rhetoric of Religion*. Burke’s “empirical”
definition of “man” is as follows:

Man is

(1) The symbol-using animal
(2) Inventor of the negative
(3) Separated from his natural condition by
instruments of his own making
(4) And goaded by the spirit of hierarchy

There are two important tensions here. The first is between animals that do and do not
use symbols. Burke’s claim is that humans are the only symbol using animals on Earth, which
we know is not true – in fact, humans are deficient in symbol recognition in certain contexts that
other animals find more natural.⁴⁹ What sets humans apart symbolically is better summed up by
the fourth leg of Burke’s definition: it is our languages’ “hierarchical structure of generating and
perceiving complex signals” that allows us to communicate in a complex manner.⁵⁰ Because
human cultural innovation is cumulative in most cases, we are able to “ratchet” up from one
complex symbol or concept to symbols and concepts that are even more complex or abstract.⁵¹ In
a sense, we create pyramids of knowledge that allow only the most highly-educated persons to
grasp the full range of symbolic meaning of which each language is capable.

⁴⁹ Cf. Tetsuro Matsuzawa, "Chimpanzee intelligence in nature and captivity: isomorphism of symbol use and tool
⁵⁰ Loc. Cit.
⁵¹ Cf. Michael Tomasello, *The cultural origins of human cognition* (Cambridge, Mass.: Harvard University Press,
1999).
Even if we are only the most effective symbol using animals on our planet, rather than the only symbol users, our symbol use is what drives the third leg of the definition. Because we have constructed abstract ideas, ones no longer anchored by nature according to Burke, we have divided human existence into two separate domains. On the one hand we have the natural, which is an expression of external reality. It is constant, permanent. On the other hand, we have the realm of symbols, where human innovation has opened the way for the possibility of mistakes, falsehoods, and misunderstanding. The realm of symbol is “artificial,” and is therefore an ethical borderland, where disinterested motion meets action. Bernard Brock expands this definition, noting that when Burke talks of symbol use, he means “a continual movement back and forth between the verbal (symbolic) and nonverbal (reality).” Language and thought happen by analogy, then, reasons Burke. Much like Lakoff and Johnson, who argue that more complex thought is the result of constructing more complex metaphors, Burke believes in an empirical foundation for all symbolic communication. Lacking this, the symbols would no longer be meaningful because they would no longer commune with the world of reality. There must be that movement back and forth between symbol and reality, or the tie is cut, and our thought devolves into solipsism.

The second important tension in Burke’s definition of man comes from the concept of the negative and these communions of symbolic thought. One can read Burke as saying that (hu)man(s) invented the negative in order to moralize and make hierarchies – a dualistic “this” or “not this.” It is also right to say that people created a similarly artificial divide between nature

53 Ibid., 23.
and nurture through our study of symbol as something unnatural or artificial. As much as humans find it easier to present issues as a simple dialysis, it is not an either-or situation; we are what nature and culture make us. Likewise, we cannot have a "thisness" without conceptualizing a "lack-of-thisness" to help sharpen our definition of what a "thisness" truly entails.

But Burke cannot escape the transcendent. He makes the analogy that “words are to non-verbal nature as Spirit is to Matter.” He argues on the basis of “symbolicity,” claiming that because human language is symbolic, it cannot be identical with the non-symbolic. This is begging the question, of course, and can be made to work for any definition of language we want to champion. Imagine Chomsky arguing for universal grammar by defining it negatively as Burke has done for paradoxical symbols: ‘It must be universal, because anything falling outside of this definition – anything outside of all things in existence (i.e. nothing) – would not exist!’ Really, Burke has defined his way into a corner, and only the notion of the mystical can save him from a rhetoric that functions as a one-way mirror; while the spiritual/symbolic can affect the material/natural, Burke seems to argue, the reverse is untrue.

However, by his own example he undermines the possibility of a one-way mirror: the case he elaborates is of a “savage on some island” in the South Pacific, who was hexed by his fellowmen. This led the man to endure actual physical suffering that modern materialist medicine could not alleviate. The problem with this analogy is that the “savage” was informed by means of “magical signs” of a non-verbal nature that he was doomed to die, not through linguistic, spiritual means. The symbols were not transcendent by Burke’s own definition, but a

56 Ibid., 16.
57 Ibid., 17.
product of the material world taken to be spiritual symbols. And this taken to be phenomenon has far-reaching consequences for the study of bioculture. At the very least, this mistaken nature of the symbol goes to show how difficult it is to carve the transcendent, the purely cultural, out of the natural world. In the worst case, we might begin to see how some have attempted to pluck culture out of nature entirely and try to prop it up on its own metaphysical scaffolding. What both of these moves generally rely on is a clever application of petitio principii to blind readers with circular arguments.

However, Burke recognizes this failure of the negative, and is able to break down the unhelpful binary he has created by adding the concept of mystery. Burke's concept of mystery helps us to imagine that there is (in Burke’s view) a Platonic form of rhetoric, and that each act is placed on a continuum, relative to its similarity to either the natural world or the artificial world of language/thought. We no longer merely commune from reality to symbol and back again, but we build a psychical bridge between the two, and our speech acts become varying measures of natural and symbolic, based on how far we choose to delve into abstraction.

Burke's concept of mystery allows us, then, to consider a continuum that measures the complexity of communicative efforts across the animal world, as I think George Kennedy was attempting to do when he was charged with evolutionary progressivism in his Comparative Rhetoric (see ‘complexity’ discussion above). Much like an animal's symbol use (or misuse?) can be assigned a certain level of complexity, a person's symbol use was what Burke was attempting to decipher with his continuum of "like nature" and "of the artificial." The closer a symbol is to a literal action or thing, the more “like nature” it is. The further we must abstract

58 Cf. Kennedy, Comparative rhetoric: an historical and cross-cultural introduction.
from the literal, the more “of the artificial” a symbol will be. And this is how I would map a materialist view based on Burke's "mysterious" one -- by the quality of an idea's reference to nature, which Burke asserted is “as itself containing the principle of speech.”

It is then for each rhetor and every audience to persuade and be persuaded, or not. Krebs and Dawkins suggest that animal signaling (and thus human persuasion) is a form of manipulation. That which is like nature in Burke’s view may be said to appeal to the nature of the audience. But symbols may at times seem artificial, in the sense that the audience picks up on the symbolic manipulation that is afoot. For instance, consider the overuse or misuse of certain words in product marketing. In particular if we imagine a snack food or beverage marketed to a youthful audience in the last ten years, their advertising campaign likely contains the word “EXTREME!” This word is used fairly consistently as a topos invoking excitement or to appeal to youthful vigor. Often, it is presented conspicuously subversively, being printed all in caps, surrounded by colorful squiggly lines that defy the conventions of more mainstream product design, just as those who consume the product defy categorization or the oppressiveness of adult mores.

Less bombastic, but just as artificial-feeling to experienced consumers, is the idea that everything must now be an ‘experience,’ or an important scene in one’s life. The so-called scalp-pampering ‘journey’ my shampoo bottle claims I will create when applying the fruit-infused product within is a severe case of hyperbole. Most mornings I am too groggy to tell shampoo from conditioner, let alone to savor the experience of applying either. The idea that I find the

daily cleansing of my hair somehow memorable in the grand scheme of things is frankly absurd. Yet this sort of artificial rhetoric (marketingese, as I call it) is commonplace. The sophisticated consumer, however, will learn to detect such exaggerations. When this happens, the audience is bound to conclude that it is being tricked and reject further suasory efforts (or to at least take them with a grain of salt – does an infusion of acai berries and pearl essence really affect anyone’s shampoo purchasing decisions anymore?).

It is also possible to see, then, how an ‘evolutionary arms race’ might proceed: as signalers develop more natural and more like-natural forms of persuasion, receivers develop counter-measures against manipulative aims. Each generation of new rhetorical methods raises the stakes and exacerbates the perceived natural/artificial divide. I will discuss this phenomenon again in chapter four, when I consider the connections between animal signaling theories and the art of persuasion, but for now, it is important to note that the divide between nature and culture is entirely symbolic, not realistic. Nature and culture are two aspects of reality that we use to understand two evolutionary processes that work by different rules. What Burke offers us is a way to erect a bridge between the nature-culture divide, by means of his concept of mystery. Instead of an unnecessary dichotomy, we now have a continuum on which concepts may be more or less abstracted by nature. This works not only for rhetoricians, but also for cognitive linguists like Lakoff and Johnson, as well as evolutionary psychologists, whose theories I will discuss in subsequent chapters.

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The Two Cultures and the Nature/Nurture Bifurcation

Biology and culture have long been viewed, in theories of human development and social interaction, as two diametrically opposed forces working against one another. However, this divide has been called into question periodically, and recently with growing frequency. To understand the importance of this bifurcation, we must first understand the history of another binary – that of the Two Cultures. Famously, C.P. Snow gave a lecture on the Two Cultures, published in 1963, wherein he confessed his belief that “the intellectual life of the whole of western society is increasingly being split into two polar groups.”62 One group is represented by the literary scholar, or humanist, while the other group comprised scientific intellectuals. While this concept of the Two Cultures immediately gained currency in the academy, humanistic objections toward comparison to, or interdisciplinary work with, the sciences gained even more traction because of the unfavorable light some of Snow’s comments cast on humanistic methods.

“Literature changes more slowly than science,” said Snow (who to be fair was a practicing writer), because it does not have “the same automatic corrective, and so its misguided periods are longer.”63 What Snow is getting at is that science is able to make progress through what Karl Popper calls “falsifiability.”64 That is, the quest to falsify predictions based on the theories advanced to account for the evidence at hand on any given issue. Literature has no such system. Rather, humanists act much like a priestly class who support or condemn new ideas based mainly on their potential to enhance or detract from their own theories. If the cardinals of

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62 C. P. Snow, The two cultures : and a second look. An expanded version of “the two cultures and the scientific revolution” (New York: the New American Library, 1963), 3.
63 Ibid., 8.
the field are gracious toward your ideas, your star will rise within the church, but do not look too deeply for a unifying doctrine, because it does not exist. Humanism is ruled by affect, whereas science concerns itself with cause and effect. And in this realm of emotion, where there is no resort to empirical evidence, confirmation bias is allowed to run rampant.65

For those who already objected to the perceived diminution of the humanities by Snow’s unfavorable methodological comparison, what E.O. Wilson would later suggest would be anathema. Wilson, the great synthesizer and father of sociobiology, borrowed the term consilience from William Whewell (literally meaning ‘a jumping together’ of multiple things), in order to suggest that the Two Cultures could unify under an evolutionary paradigm. It is Wilson’s firm belief that unity could produce fruitful scholarship for all who wish to understand human culture and behavior.

There is only one way to unite the great branches of learning and end the culture wars. It is to view the boundary between the scientific and literary cultures not as a territorial line, but as a broad and mostly unexplored terrain awaiting cooperative entry from both sides.66

Needless to say, one culture was more willing than the other. Life and social scientists have for some time been encroaching on the territory traditionally held to be humanistic, literary. The humanists’ response however, has been generally to withdraw further into disciplinary isolation.

66 Wilson, Consilience : the unity of knowledge: 126.
As if in rebellion against all things scientific, some humanists stuck their collective head in the sand and declared that because all is culture, there is no human nature to speak of.

This was misguided, as many humanists are beginning to recognize. Humans do have a universal nature, which separates them from other animals. Donald Brown has compiled a list of over 80 beliefs and behaviors that are shared across all known human cultures, representing a foundation for our definition and future study of a singular human nature. These traits include baby talk/motherese, assigning status based on age, beliefs about religion or the supernatural, body adornment, medicine, metaphor, the creation of music as art, and the use of language.\(^67\) That these traits exist makes sense. We evolved under different circumstances than other animals, and the fact that we diverged from even our closest primate cousins denotes a need for different physiological or behavioral reactions to selection pressures. Put simply, we are not going to act like eagles or lamprey because we are not eagles or lamprey. If our survival rested on our ability to flap our arms and soar above the trees or our willingness to latch onto fish and extract nutrients from them as they swim about, we probably would not have made it as a species. Luckily we developed a human physiology and a human nature that allowed us to endure our environment and behave in ways that gave us an advantage over competing species. I would contend that one of these behaviors is the production and consumption of art.

Denis Dutton argued this case most convincingly in *The Art Instinct: Beauty Pleasure, and Human Evolution*.\(^68\) He argues that, as a species, our tastes in art have been largely shaped by evolutionary pressures. Because some human aesthetic preferences exist in every known culture, he concludes that they must be a trait that all members of our species are born with, not a

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\(^{67}\) Brown, *Human universals*.

\(^{68}\) Dutton, *The art instinct: beauty, pleasure, & human evolution*. 
reflection of the cultures to which we are exposed. Images of trees, and scenes containing blue water, landscapes that hearken back to the savannah of our evolutionary development, all arouse pleasure in the human viewer, regardless of his or her culture. And while there are obvious cultural differences in the production and consumption of art, all normally-developing human beings produce it spontaneously, and without instruction. In a sense, we are programmed by our genes to be art machines, born with the desire to create and to appreciate whatever it is we consider artistic.

Dutton’s claims are not restricted to visual art, either. Musical, tactile, and even aromatic art are discussed, although he has some misgivings about our ability to classify and recall individual scents. More importantly, he also makes the case for the adaptiveness of literature, which brings us closer to the subject of this study. Arguments for an adaptationist narrative theory have gained much ground since Joseph Carroll made one of the most controversial, and widely-read, entries into the field with his Evolution and Literary Theory in 1995. While his was not the first attempt at merging the study of evolutionary biology with the study of literature, it was a forceful argument that thrust consilient approaches to literature into the spotlight. Educated readers found it easy to make the connection between the evolved mind and the artistic products those minds produce and consume. As Jonathan Gottschall would later argue, a “literary scholar’s subject is ultimately the human mind – the mind that is creator, subject, and auditor of literary works.” To agree with the basic tenets of evolution, but deny its effect on this one sacrosanct area of life – human culture – is to fool oneself.

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70 Gottschall, *Literature, science, and a new humanities*: 17.
But there are those who disagree with this analysis. Noted psychologist Stephen Pinker is not entirely convinced that art in general, or literature in particular, is an adaptation. He sees stories as something a bit more frivolous than Carroll does, calling them a pleasure technology. He makes a famous analogy between the desire to eat the rich, sweetness of cheesecake and our desire to read stories.\(^7\) The only way we could make a case for the adaptiveness of storytelling, says Pinker, is if we explore the instructive uses of narrative, rather than the delight that is its by-product.\(^2\) This is just what Brian Boyd recently attempted to illustrate. He claims that art cannot be a mere by-product of other evolved traits, since it is in many cases costly to produce.\(^3\) The argument proceeds under the assumption that evolution would not have allowed human beings to funnel so many of our precious resources into the production and consumption of art if it did not provide some fitness benefit. Boyd synthesizes prior arguments that present fiction, a seemingly wasteful endeavor, as having many useful functions, including arguments others have made for its ability to hone cognitive skills, speed our capacity to guide and redirect social attention, and help us in future decision-making by stocking our memory with examples of appropriate behavior in specific situations.\(^4\) But it is important to note that the concept of art encapsulates many diverse behaviors – some of them costly, and others not – so it is important to note the dangers of generalization about ‘the arts.’ Better to treat each specific art as its own behavior.

In treating fictional narrative, Tooby and Cosmides confirm that the creation of speculative ‘worlds’ is indeed a human universal.\(^5\) While one would expect that our desire for

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72 Ibid., 173.
74 Ibid., 188ff.
information would bias us toward true stories, in fact it is quite the opposite – most people prefer reading fictional novels to biographies or textbooks, fictional films to documentaries on the same subject. We do not seek out narrative because of an appetite for the true, so much as the actual rewiring of our neural systems fiction helps us achieve. Fiction is, in fact, the most useful counter-factual/strategic system humans employ on a daily basis. There are indeed many potential uses for fiction, or for narrative in general, and this is heartening for students of rhetoric, as storytelling has long been considered a rhetorical act.

So we see, if art in general, and narrative in particular, are adaptive traits – ones that help individuals contribute more of their genes to future generations – then it is worth asking whether the art of persuasion, in particular, is also adaptive. This will be the subject of the next chapter, but we must begin from the beginning, as it were, like many studies in rhetorical theory. It is not only necessary to attempt a definition of rhetoric, but it will also be helpful to narrow the scope of rhetorical study, so we may understand the tensions inhering to any definition of rhetoric we provide. Thus, with the help of rhetorical criticism, I will attempt to show that the behaviors I am arguing are rhetorical are rhetorical. I will also adopt an evolutionary approach to this exploration of meaning, and hopefully provide a useful ethological definition of persuasiveness as a class of behavior.

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76 Ibid., 17.
Chapter III: Is it Adaptive? Is it Rhetoric?  

I. The Struggle to Define Rhetoric

The field of study rhetoricians claim is notoriously broad, to the point where members of our own profession have asserted that if rhetoric is everything, then it is nothing. Yet it is quite easy to argue that argument is everywhere. If one dons a Metallica tour shirt, one is persuading people that they are a good band. All questions are rhetorical in one way or another, since by asking a question one is either soliciting information or asking what is commonly called a ‘rhetorical question,’ the point of which is to make people think about the profundity of the answer(s) we assume the respondent would provide. Fast food companies vent their fryers out into the open air so passersby smell the tempting greasy scents and are persuaded to come in and buy some french fries. By writing this passage, I am even making an argument that I am making an argument. Argument is everywhere, or so it is argued!

So how do we define this art of arguing, persuading, cajoling, but not coercing? For coercion is a good starting point in defining a boundary, as any attempt to use force to compel another individual is thought by many to mark the breakdown of persuasiveness. As far back as Aristotle, rhetoricians have been attempting to find the “essences” of rhetorical behavior, and

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77 Portions of this chapter will appear in The Evolutionary Review, vol. 4.
78 For a review of this argument’s more recent history, cf. Alan G. Gross and William M. Keith, Rhetorical Hermeneutics: invention and interpretation in the age of science (Albany: State University of New York Press, 1997), 107f.
79 Sharon Crowley and Debra Hawhee, Ancient Rhetorics for Contemporary Students, 2nd ed. (Boston: Allyn and Bacon, 1999), 2.
minimal progress has been made.\(^{80}\) It was my original purpose to discover the “DNA of persuasion,” as Kevin Dutton puts it in his recent coffee table account of the ‘science’ of persuasion.\(^{81}\) Yet, I was no more successful than Dutton. In fact, and in the interest of full disclosure, I will tell you now that you will not find a miraculous breakthrough in this chapter, wherein the author puts all prior thinkers to shame by concocting the perfect definition of rhetoric for all its uses. What I hope you find, rather, is an exploration of how persuasion can be investigated in useful ways and in various situations. I will then attempt to turn this exploration into a working definition of rhetoric at the end of this chapter, one that may need adjustment as my argument proceeds.

Doing this will help conclude the first half of this dissertation; much of which is, admittedly, preamble to the main argument. It is necessary groundwork, however, for a new interdisciplinary approach. While I argued in Chapter I that naturalistic views are not alien to the study of rhetoric, there was a hiatus in the late 20\(^{th}\) century that requires some explanation for why we need bother to pick these threads back up. Likewise, an argument for a specific form of naturalism requires distancing itself from a one-dimensional analysis of either culture or biology, which I did in Chapter II, and laying out the lineage of a biocultural, or consilient, approach to understanding human behavior. If I can now identify the concerns raised by asking if what I am studying is adaptive, and if it is rhetoric, then I can proceed with my argument that there is an identifiable something that is rhetoric, and further, that that something is adaptive.

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II. A Quantum of Rhetoric

In order to proceed with such a broadly interdisciplinary study, it is essential to define first principles. Because it would not do to define rhetoric arbitrarily, it will be beneficial to begin with a sketch of the basic unit of rhetoric. This will be, perhaps, the most challenging facet of the study, for rhetoric is a spongy term and the quantum of persuasion is a slippery concept. Rhetoric may exist in a document, a paragraph, a sentence, or a word. It is found outside of written language in a speech or phrase. A grunt can be rhetorical, as can an abstract t-shirt design. Music has rhetorical aspects, and even silence may ‘speak louder than words.’ Excellent work has been done on visual rhetorics in the past.\(^{82}\) Even the act of listening, it has been argued, can be rhetorical.\(^{83}\)

An outline, then, must form. While there is little in the way of consensus in the field of rhetoric and composition, there are clear precedents for all of the following claims:

1) As I mentioned above, rhetoric is multi-modal: it can be verbal, physical, visual; even olfactory and tactile forms are deployed. Consider our traffic regulation systems, and the iconography of road signs. Does anyone truly believe flying black deer charge the highway every time the sky turns ripe-banana yellow? Of course not. This is a form of visual rhetoric meant to persuade through symbols that are easily-recognized when traveling at 75 miles per hour.


If it is difficult to imagine tactile or olfactory persuasiveness, that is only because we are unused to analyzing these behaviors as argument. If grandma places a hot apple pie on the window sill to cool, knowing that the smell will lure her grandchildren in from play, she is being persuasive, exploiting their noses and their love for sweet cinnamon and apples in a flaky crust. Again, in the case of tactile arguments, we do not always recognize them as such, because we do not waste time analyzing what is mostly composed of mundane behaviors. Take, for instance, the act of tickling and caressing to initiate intimacy. These are subtle arguments at times, but they are arguments nonetheless. If people walked up to strangers and began to tickle and caress them, chances are good that their efforts to solicit mutual fondling would lead to unwanted counter-arguments. Rhetoric will likely break down at this point, followed by police coercion.

2) Despite some disagreement, most rhetoricians would say that rhetoric is intentionally produced. When I discuss animal signaling theory (Chapter IV), one of the ways I mark the boundary between that area of research and the study of rhetoric is that animal signaling considers many unintentional behaviors, or phenotypic traits, in the same category as voluntary acts. For instance, few rhetoricians would claim the peacock tail literally makes an argument for the fitness of the individual displaying it. The concept ‘argue’ is sometimes used metaphorically in the life sciences. Rather, one might say this indication of fitness is a physiological trait selected for by sexual preferences among peahens.

In fairness, there are counter-arguments to the necessity of intention.84 If, for instance, a woman wakes up late at a party, throws on a leather jacket that looks like hers, not noticing that

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there is an offensive logo on the back of the jacket, and then rushes off to have brunch with her
mother, she might wonder why she is getting stares from the other patrons in the restaurant.
Some would claim that the accidentally rude jacket scenario does in fact make an argument.
Perhaps the argument is merely that the woman was careless, or that she should sleep in her own
bed and have a shower before meeting her poor, aged mother in the morning, but these are
admittedly arguments one could intuit from this situation, depending on one’s point of view. I
would, once again, draw a distinction based on intent, however. The arguments in this scenario
are not actually the woman’s, but those of an (uninvited) audience who are speculating about
meaning where meaning may not lie.

3) If rhetoric is intentional, then it must be teleological. Possible teloi include persuasion,
finding truth, or achieving consensus. Ancient authors took great care to lay out their approved
uses of persuasion; Cicero’s offices of rhetoric provide but one example. In the third book of De
Oratore, he claims the purposes of rhetoric are to instruct, to delight, and to persuade others to
take action.\(^{85}\) In the case of non-human animals, there also must be a purpose. It must pay to
signal, on average, or the behavior would not have evolved and become so widespread.
Interestingly enough, successful rhetoric in the animal world might require the audience to have
a purpose, as well. For, it must also pay to be persuaded, or the willingness to respond to
signalers would not have evolved, either.\(^{86}\) The next time you try to persuade someone, it might
be worth asking yourself what they get out of the deal – it might be more than you think.

4) Rhetorical acts appeal to one or more modes of proof – Aristotle’s *entechnic pisteis* (logos, ethos, and pathos) are the best known conception of what we call ‘artistic’ proofs. Logos corresponds to what we imagine as informal or formal logic, pathos corresponds to the emotions, and ethos corresponds to the character of the speaker.

5) As Lloyd Bitzer reminds us, persuasive acts are always dependent upon and performed in conversation with their rhetorical situation; Burke’s pentadic formulation is especially suited to illustrate this trait of the basic unit of rhetoric.\(^{87}\) Likewise, the journalistic W’s (Who? What? When? etc.) are often used to interrogate the context of a persuasive act.

6) Finally, rhetoric must set out with the goal of transmitting information in order to share with or manipulate a conspecific. If it does not do this, then it is only useful to the individual enacting it upon him or herself, and falls decidedly outside the scope of interpersonal communication.

Sharing meaning can refer to at least two different goal-oriented behaviors. First, there is the fact-based sharing of communal information, often based on shared perceptions of external realities. For instance, if I bring up the concept [dog], nearly everyone will have a very similar set of traits in mind that form a general dog-like form. Second, we have the ideological meaning, built on personal associations. I, for one, grew up with hunting dogs, like Labrador retrievers and springer spaniels, so I often associate the image of dog with those physical traits the aforementioned breeds have in common. I also associate memory-feelings like cool autumn days outdoors walking fences, and the savory smell of roast pheasant wrapped in bacon. These are personal associations, ones which many people do not share. In fact, I have met numerous people

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who were bitten by dogs when they were quite young. To them, the mention of [dog] conjures painful emotions like fear and confusion due to unwarranted aggression.

While these personal associations are important to every individual, they cannot be the operative meanings for successful rhetors. Rather, any attempts at successful rhetoric must address the common knowledge and associations of meaning shared by the audience, rather than the assumptions of the speaker alone. Forays may be made into the distinctive and idiosyncratic, of course, but a baseline of conceptual agreement must hold for the majority of concepts if information is expected to flow smoothly from signaler to receiver.

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While this outline does not fully contain rhetoric, it does suggest some boundaries which will serve as starting points for our analysis. There are two more important modes of definition this study requires. The first is to determine whether what I have defined is adaptive. That is, does the art of persuasion increase an organism’s ability to contribute genes to the next generation? Usually this is achieved through strategies that help an individual secure resources, survive, and breed. This question will be discussed in fuller detail below.

Next comes the question of whether what we define as adaptive is indeed rhetoric. The second remaining mode of definition this study requires asks whether animal rhetorics are truly exercises in rhetoric at all. Having taken a biological approach to determine adaptiveness, I should now use the existing tools of rhetorical theory to shore up the classification. The best
method for doing this will be to utilize Hermagoras’s *staseis*, which will guide us toward a more precise definition of rhetoric that may be applied to all members of the animal kingdom.

**III. Is it Adaptive?**

As the name of this nascent field – Adaptive Rhetoric – suggests, persuasive activity is indeed beneficial to the individuals and groups that practice it, helping them to live longer and pass on their genes (thus a trait or behavior biologists call ‘fitness-enhancing,’ or, more colloquially, ‘adaptive’). I have noted in this essay some similarities between animal rhetorics and those of human animals in particular – these similarities are no coincidence. Beyond the mere act of signaling or communicating a need, the intentional, strategic thought behind many persuasive efforts affords multiple potential benefits to individuals and groups. Provided below are some likely fitness benefits of persuasion. This list is not exhaustive, and does not present mutually exclusive choices; a capacity for persuasion could have developed for all, some, or none of these reasons:

1) Use of rhetoric allowed early humans an **alternative to physical conflict** over resources. George Kennedy provides an example when he analyzes the stages of a confrontation between two red deer stags in rut.\(^88\) When the two males approach, they will first attempt to persuade each other to go away by bugling loudly at one another. After a time, if neither stag is

\(^{88}\) Kennedy, *Comparative rhetoric: an historical and cross-cultural introduction*: 13-4.
convinced his opponent roared louder or longer than he did, the stags begin to ‘display the goods,’ as it were, by strutting at right angles to one another, demonstrating their physiques. Only when these displays fail (less than a third of the time in red deer conflicts) does fighting occur. These confrontations reflect attempts to persuade rather than coerce; they offer alternatives to physical conflict, which is one important motivating factor of animal rhetorics, including, according to Sharon Crowley, the rhetorical acts of human animals.  

Although this does not yet tell us what rhetoric is, it at least tells us what rhetoric is not; that is: it is not an escalated fight between two animals of comparable size and abilities, and that is an important thing to not be. Fights in nature can be terribly costly to aggressors and defenders alike, so any mechanism that can help to settle disputes without resorting to violence would seem to be of mutual benefit. When considered in human terms, this principle is obvious to the point of absurdity. If a husband and wife disagree about who gets the last bit of tuna casserole at dinner, should the wife bludgeon her husband with a frying pan until he runs away, or should she attempt to persuade him that she needs the casserole more? Or that she did more of the preparation, so she deserves it? Or should she make him feel indebted to her by allowing him to have it this time? In this somewhat comical case (comical only because we do have recourse to persuasion instead of merely physical coercion), we can easily see that persuasion is far less costly than a divorce lawyer and a stint in jail for spousal abuse. But this still leaves the question of how rhetoric is deployed, and whether it is only used to avoid physical conflict in the animal world.

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89 Crowley and Hawhee, *Ancient Rhetorics for Contemporary Students*: 2.
2) Rhetoric allows members of various species to form and confirm group identity. Much rhetoric in the human world is concerned with reaching consensus or reinforcing group identity, and other animals display similar types of practices. In their synthesis of theories of animal communication, John Maynard Smith and David Harper describe a peculiar event among African wild dogs that constitutes a clear case of epideictic rhetoric in human terms. Often referred to as a greeting ceremony, the dogs gather before a hunt to sound off to one another and initiate play fights. These noisy signals risk gaining the attention of larger predators, such as lions, but are important to foster group cohesion before the hunt, an activity these dogs perform like a well-coordinated relay race against their prey. The greeting ceremonies of the wild dogs are perhaps akin to high school pep rallies or battlefield speeches meant to rouse a group into action and reinforce its sense of community. In battle, as well as the hunt, lives are at stake, and in the simulated battles of high school sporting events, teamwork and a sense of unified purpose is a necessary precursor to victory. Human rhetoric in these cases also involves noisy displays of coordination, be it slapping sword against shield to intimidate the opposing force, or merely reciting sporting cheers composed from generic topoi, such as symbolic murder, superiority of skill or teamwork, or demonstrations of greater desire for victory. In both human and canine cases, this is a clear expression of epideictic rhetoric, performed in strikingly similar ways.

3) Many animals use a variety of strategies to persuade potential mates to breed with them. The Australian splendid fairy-wren is an interesting example. The males of this species are exceedingly manipulative in their displays. Emma Greig describes what is now being called the

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“scary movie effect” in wren attraction.⁹¹ Some male fairy-wrens, when they see that a female is listening to their calls, will then begin faking predator signals, like that of the butcherbird. These fake predator calls startle the unwitting female into becoming more attentive to the males calls when he then continues them, as if they are seeking the male’s protection from the perceived threat. Likened to one common dating strategy employed by some human teen males, who reason that their dates will allow them to put their arms around them if a movie becomes too scary, the fairy-wren uses fear to manipulate the female to his advantage. Once the startling call is heard, the now more attentive females have a higher probability of mating with the male who manipulated her attention.

4) Persuasion is a means to prestige or power within a group. Just as power in chimpanzee groups does not rely on individual fighting prowess, so much as the ability to form stronger coalitions, human prestige and power are infrequently tied to fighting ability alone.⁹² Kenneth Burke defines rhetorical practice as “the manipulation of men’s beliefs for political ends.”⁹³ Political power can be obtained through various means, and can also be a side effect of possessing some seemingly unrelated trait. Often in hunter-gatherer societies, the most skillful orators occupy the most prestigious political roles. Locke and Bogin (2006) cite numerous examples of this trend, including the Trobriand Islanders, who call their tribal leaders “rhetoric

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⁹³ Burke, A rhetoric of motives: 41.
thumpers,” because persuasiveness is such an important component of their rise to chiefdom. Likewise, in several South American cultures, people consider speaking a duty one cannot avoid if one wishes to lead. Some studies even follow Aristotle’s vision of the magnanimous leader, linking deepness of voice to the effectiveness of males as politicians and potential mates in oral cultures. The logic of this argument is that deeper voices indicate higher levels of testosterone, which point to dominance in human males. The ability to tell a good tale is not only useful for purposes of entertainment; it can also help transmit important environmental or cultural information to the tribe. Maintaining a reputation for holding useful information can greatly enhance the prestige of an individual within his or her group, to which much work on the social functions of gossip attests.

5) **To convince an audience of the accuracy of one’s information.** Think of the honey bee (*apis mellifera*) waggle dance as an analogue to early human rhetorical situations. When a honey bee forager returns with information about a new food source, it initiates a dance in a figure-eight pattern, with the direction of movements in relation to the sun indicating the direction of the food source, and the waggle length indicating the distance to the target. When more than one bee returns with information, it is often the bee that performs the most insistent dance that the other bees decide to follow. This is a rudimentary form of persuasion that relies

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95 Loc. cit.
upon urgency of performance (including factors such as the intensity of waggle and persistence in the face of competition) as an index of quality. Other indices likely prevailed in the early human world, including an individual’s history of presenting accurate information, the quality of the source of information (did the hunter actually see the antelope, or just its tracks?), and the relevance of information presented to the needs of the group (perhaps the tribe is flush with antelope meat but has outgrown its shelter and needs to find a better home).

IV. Is it Rhetoric?

If I want to establish that the behavioral adaptations to selection pressures listed above do indeed constitute rhetorical practice, then I need to answer the most basic questions about these behaviors, which are formulated in classical rhetorical theory as **stasis** questions – that is, modes of inquiry about the status of an object or idea that provide discussants with a common definition or a distinction between competing claims. They are as follows: **An sit** (Is it)? **Quid sit** (What is it)? And **Quale sit** (What qualities does it have)? The first question is easily dispatched, for we have all seen people and other animals argue, persuade, wheedle, cajole, whine, beg, and bluff. Biologists call it signaling when animals do it, but when humans signal in an attempt to persuade, we call it rhetoric. One or more organisms are rhetors when they seek to persuade other organisms or to alter their states of mind. Employing rhetoric, one can argue for simple desires or complex associations of ideas (like a particular religion), and gatherings of individuals can reinforce their group identities.
Establishing that animal rhetorics exist is far less difficult than understanding the various forms of signals animals enact to communicate. Students of the natural world insist not only that communication is not the exception in the animal kingdom, but that it is not limited to animals alone. Simon Kirby tells us that communication “is very much the norm among almost all species on the planet, whether it be between animals, insects, plants or bacteria”\(^99\) Since my argument is focused on animal rhetorics, I will limit myself to naming two very interesting types of non-human communication. Ant species have been known to communicate through the production of pheromone secretions. So far, biologists have identified up to twenty different chemical symbols or phrases meant to relay specific types of information.\(^100\) An even greater departure from human practices are the behaviors of electric fish. It has been argued compellingly that certain species of fish in the Amazon River are able to communicate and navigate by means of the electric fields that they produce.\(^101\) While this sounds like something out of a science fiction novel, it serves to show how parochial human beings are in their understanding of communication.

There are simple behavioral forms of communication, like a cat’s purring when it is contented or nervous. Simple communicative forms include the same cat’s meow or the panic-inducing bark of the dog next door. Very intelligent animals have even developed proto-linguistic abilities. Kanzi the bonobo “has acted upon words in a focused and specific manner too frequently for the connection to be due to chance alone.”\(^102\) The reason we call his communicative behaviors proto-linguistic is because humans supply his words and symbols for


\(^{100}\) Wilson, *Consilience : the unity of knowledge*: 70.

\(^{101}\) Ibid., 47.

\(^{102}\) Ibid., 131f.
him. Bonobos observed in the wild are multi-modal rhetoricians, who use postures, body movements, facial expressions, and the bristling of fur to supplement their audible calls, which in some ways is much more complex than mere verbal communication. However, those pygmy chimps like Kanzi, whom researchers have taught human sign languages, are communicating with borrowed skills.

If animal rhetorics exist, are they a one-way mirror? Some research into this question turns up interesting results, for animals not only communicate-to, but they also act as audience-for. As an audience for human rhetorics, dogs are among the very best examples. Dogs are eager communicators with their human guardians, both giving and demanding attention, sometimes incessantly. Many breeds are easily trained to respond to various words and tones, allowing humans to put dogs to work for them in multifarious ways. Dogs hunt for us, ward off vermin, herd our cattle, and after being subjected to some unfortunately violent training practices, give up much of their own nature to care for humans with special needs. Experimental data indicate that dogs can learn and respond to several hundred human words, which has led some researchers to conclude that dogs do not utter phrases in human languages due only to the physical limitations of their mouth and throat.103

So animals communicate with one another, and with us. But what constitutes rhetorical practice? For Aristotle, rhetoric is "the ability, in each particular case, to see the available means of persuasion" (Rhet. 1.2.1).104 For some animals this may be apropos, but for those who do not have a rhetorical toolbox filled with multiple options for the situation, the implicit idea of choice

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or strategy might be inappropriate. Then again, those animals who stick with what works could have an advantage over Kenneth Burke’s *Homo sapiens sapiens*, whose habit is not only to create and use symbols, but to tragically be prone to misusing them, as well.\textsuperscript{105} This should not be too alarming, however, as Maynard Smith and Harper note a similar deficiency of control some animals display when using their own forms of communication, as well. They make the distinction between cues and actual signals. Cues, they claim, are behavioral traits that did not evolve in order to persuade others, whereas a signal is “any act or structure which alters the behavior of other organisms, which evolved because of that effect, and which is effective because the receiver’s response has also evolved.”\textsuperscript{106} Cues, it seems, would then be performed at the expense of the performer. One might envision them like ‘tells’ in a poker game – unintentional indications of information one does not wish communicated.

An important follow-up question to consider, after having discussed some definitions of rhetorical practice, is: What does rhetoric replace that was less effective for the creatures that did not practice rhetoric? There are several possible answers to this question; one of the most important is that some rhetorical moves are less costly than their alternatives. If we can recall from above George Kennedy’s description of the stages of red deer conflict, or the husband and wife fighting over the last of the tuna casserole, it is apparent that rhetoric is useful as an alternative to physical violence.

The last of the classical *stasis* questions asked to ensure a thing is adequately defined is about the qualities it displays, and this question will shed light upon the uses of rhetoric shared

by humans and other animals. In the human world rhetoric is divided into three genres: forensic, epideictic, and deliberative. These divisions are concerned with time past, present, and future, respectively. Forensic rhetoric focuses on discovering details about past actions in order to accuse or defend. Often, as viewers of popular television crime dramas can tell you, forensic arguments are used in the courtroom to aid those seeking justice for past wrongs (hence this division is often referred to as judicial rhetoric, as well). While forensic rhetoric is concerned with time past, epideictic rhetoric takes as its subject matter issues of praise and blame in the present. It is a broad category which includes such diverse genres as the funeral oration, the poetry slam, and the congratulatory greeting card. Finally, deliberative rhetoric is what we hope our politicians will practice responsibly (rather than the ‘mere rhetoric’ they often accuse one another of utilizing). It is concerned with discovering the best future course of action for an individual or group. Each type of rhetoric is represented in the animal world, just as in the human. An example from each category may prove helpful toward understanding how similar many human and animal rhetorics truly are.

We can find the foundations of these three genres of human rhetoric in animal signaling. Using the behavior of bowerbirds as an example that should be familiar to many readers, we may glimpse the practice of deliberative rhetoric in action. Having decorated each bower with colorful leaves, berries, and even the shiny objects humans have discarded nearby, the male bowerbirds display their ‘artistic’ taste in the elaborate construction projects they take on. During later encounters, females will flit from bower to bower in order to inspect the work and make judgment about which construction is most attractive. The females in this scenario take their time to deliberate on a future course of action, and often do not choose the first bower they inspect. In
this case, the choice is about whether or not they should accept a particular male’s display and mate with him in the future. The male bird performs a rhetorical act, allowing the females to accept or reject the argument that the male in question is fit to mate with.

It is even easier to conceive of more immediate situations where the art of persuasion is employed in nature. However, it is important to note that rhetoric is not used merely for securing mating rights or staking out territory. Much rhetoric in the human world is concerned with reaching consensus or reinforcing group identity, and other animals display similar types of practices. Recalling our discussion above regarding the greeting ceremonies of African wild dogs, which they performed before the hunt to confirm and strengthen group identity, we see an example of *epideixis* for immediate benefit. Another example could come from the frequent gatherings of crows, who are territorial by nature. One hypothesis to explain this behavior is that it supports group cohesion.\(^\text{107}\) Much like the wild dogs, or the human pep rallies and battlefield speeches discussed above, crows may gather to reinforce social bonds and keep up to date on information about the numbers and health of the other animals in their area. Again, this serves an epideictic function comparable to many human activities.

A final comparison can be made with the forensic rhetorical practices of non-human animals. These can be expressed in various ways, one example being conciliation practices among primates. Bonobos in particular maintain a tight social bond with their fellows. Intra-group aggression is relatively rare and occurs most often when fighting over mates or food. The ensuing conflicts over mates usually result in one male chasing off another, only to return to the

loser of the conflict after he is finished to make conciliatory gestures (such as mutual scrotal rubbing). Conciliation in this case is an argument that, put in human terms, might signal something to the effect of: “I realize we fought, but I would like to remain friends.” It is an argument based on the circumstances surrounding past activity and how that should (or in this case should not) influence future behavior.

V. Toward a Behavioral Definition of Rhetoric

If we have established in the reader’s mind that rhetoric is, indeed, adaptive, then there are multiple possible explanations for why it developed. We must remember that the art of persuasion is an evolved set of behaviors which allowed humans to overcome certain selection pressures in the Pleistocene. To recapitulate the potential explanations I put forth above, perhaps rhetoric exists as a less-costly alternative to physical conflict, or as a way to enhance cooperation within a group. It could merely be a method for convincing potential mates to breed, or successful rhetoric could help establish prestige or political power within a group. It could even serve a gossip function, a very necessary tool for a social species, by helping the rhetor convince an audience that he or she is in possession of the most accurate and timely information (and should therefore be trusted).

If rhetoric can serve all these purposes – and likely it serves those I have offered and many more – how can we form a single definition of rhetoric to contain them? Much help will

come from my treatment of animal signaling theory in the next chapter, but for now we should
turn our focus to the evolved mind of *H. Sapiens*.

It is worthwhile to indulge in an aside at this juncture, knowing that we will then proceed
on more solid ground. The evolution of certain behaviors, even certain organs, need not occur the
same way in all animal bodies, and sometimes it is difficult to imagine how such efficient and
amazing adaptations could happen multiple times and independently. Anyone familiar with
Christian fundamentalist arguments against the mechanism of natural selection as the driving
force of evolution is likely familiar with the argument from perfection, or the closely related
argument from design. William Paley, in 1802, popularized an analogical argument that runs
roughly as follows: finding a watch lying on the ground, a man examines it and notes the sheer
complexity of the inner workings of the timepiece.\(^1\) The man reasons that any object that is so
very complex must be designed, which brings him to the likely conclusion that the watch
therefore has a designer. Now, the universe is a very complex thing, too, with many elements
that have the appearance of complex design. Does it not follow that the universe must also have a
designer?

It does not, and this argument is to this day reformulated in such a manner as the person
arguing for the necessity of a designer substitutes any complex term for “the universe” above. A
common, and long-refuted, example of this is the human eye: because the human eye is so very
complex as to appear designed, its existence must indicate a designer. Or, the argument from
perfection, which is nearly interchangeable: because the eye demonstrates such perfection of
form and function, it must be designed by a supreme being (generally with an implied “my

\(^1\) William Paley, *Natural theology; or, Evidences of the existence and attributes of the Deity* (London,: Printed for R. Faulder, 1802).
supreme being, not yours, of course”). Richard Dawkins deals with this leap of faith most brilliantly through his analogy to the imaginary Mount Improbable.\textsuperscript{110} Imagine staring up at a sheer cliff face, with your intention being to reach the top. It seems an impossible task, one that would take a great leap to move from the base of the mountain to its peak. But what if we are to walk around the side of the mountain and discover that on the other face it has a gradual slope leading eventually to the top. Now one would not need to make a single impossible leap to get to the top; one could get there gradually. And this is his point – even organs that appear to be perfections of design (which the human eye is not) when viewed fully developed are quite easily explained through gradual steps. If half an eye is not appealing to those of us born with fully functioning eyes, imagine for a moment having been born blind. How happy we would be to have 50% vision!

However, our joy at suddenly having more than nothing is not the point. The point is that the eye neither developed in a single leap, nor did it only develop once. Animal eyes have developed in several different lineages, and they have done so gradually.\textsuperscript{111} This idea of the independent evolution of similar organs in multiple lineages has important repercussions for the exploration of animal rhetorics. In my discussion of information accuracy above, I used the example of the honey bee waggle dance to demonstrate a very human concept – that of convincing conspecifics through the art of persuasion that ‘I am a person who always has accurate and timely information.’ Bees do not construct complex ethoi like that. The insistence of their waggle is as far as they go, and to our knowledge every bee is presumed honest in her signals, as her interests and those of the hive coincide with respect to food location. Thus, I must

be careful to use honey bee rhetorics analogically, rather than homologically, as I might do with chimpanzee gestures and the physical suasion of humans. Because we share a recent ancestor with chimps, it is quite possible we are hard-wired to perform similar behaviors in response to similar situations.

This further complicates our attempts to pin down an ethological definition of rhetoric, but we may be able to cordon off some behavioral space by gathering what we already have reasoned in this chapter. It may be safe to say that rhetoric is the intentional communicative act of an animal whose purpose is to inform, or to manipulate the behavior of, one or more members of a real or imagined category of hearers called ‘audience.’ I hedge the idea of audience for reasons I will go into fully in Chapter V, which treats rhetoric’s relationship to the psychological concept ‘theory of mind.’ For now, let us put a pin in this conversation, noting only that our evolving concepts of audience do not always correspond with external reality. That is, from a certain point of view, one could say that audiences are all in our minds.
Chapter IV: Animal Signaling and the Art of Persuasion

In the previous chapter I attempted a working definition of the art of persuasion. I claimed that rhetoric is the intentional communicative act of an animal whose purpose is to inform, or to manipulate the beliefs and behavior of, one or more members of a real or imagined category of hearers we commonly call an ‘audience.’ This definition discriminates in a number of ways. First, I only attribute rhetoric to animals, not plants or molds or other nonsentient beings. This is a result of a second act of discrimination – rhetoric, I conclude, must be intentional; it must be an attempt to influence behavior or belief. The way I view rhetoric is in many ways a matter of competing and cooperating interests, and that colors my take on the intentionality debate. The implications of this view will become clearer as I discuss animal signaling in this chapter and audience-centered theories of rhetoric in Chapter V. My definition may be somewhat incomplete, as I do not allow for self-persuasion, but I am as yet not sanguine about the idea that self-persuasion is the same behavior as other-persuasion. (As with any of my conclusions, I reserve the right to revise this opinion in the future.) For now I will focus on suasory efforts directed at one or more auditors. The final way this definition prescribes the terms of our discussion is in the goals I ascribe to rhetoric. At its most basic level, all such acts must fulfill Cicero’s offices of rhetoric: to delight, to inform, and to persuade.
To delight, inform, and persuade (or rather to gain audience attention, inform, and manipulate) are three basic goals that have been ascribed to all animal communication by life scientists, at one time or another, not only to the very specific case of human persuasion. That the goals of animal and human communication could be so aligned has not been explored as thoroughly as it ought to be; in fact, human communication has occupied a special position in most disciplines, remaining disconnected from other animal behaviors, no matter how sophisticated. I suggest that it is time to reunite studies of human persuasion with the persuasive acts of other animals. To do that, however, requires an understanding of how ethologists and evolutionary biologists treat what they call the ‘signals’ of animals, and how animal signals might apply to humans in particular.

In this chapter, I intend to demonstrate that rhetoric is a special form of animal signaling, and that the signaling theories that have been developed since the ethological revolution of the 1950s can inform studies of human persuasive efforts. In order to do this, we will first need to understand the history of animal signaling theory, and why it was so late in developing compared to other behavioral studies. While I must present a condensed version of this history, I will try to make the connections between developments in the field clear by dividing theories of animal signaling into three types: theories of honest or automatic signaling, theories of deceptive signaling, and hybrid theories that require us to apply multiple explanations to understand the different types of signals animals employ.

These theories of animal signaling apply to rhetorical theory in intriguing ways. Not only are the offices of rhetoric evoked in the explications of animal signaling theories, such as John Maynard Smith’s requirements for successful communication (discussed below), but other
divisions of rhetoric have been used as meaningful heuristics for understanding animal signals. In the second part of this chapter, I will discuss the similarities between animal signaling theories and such rhetorical divisions as Cicero’s offices, the speaker-audience divide, and generic divisions (revisiting the discussion from chapter three), in order to suggest that rhetoric in human societies often acts as a costly signal. Instead of acting as a direct index to the quality of the individual however (see below for discussion of indices), costly signals in human groups often sacrifice potential resources in favor of gaining prestige, power, or standing within a group.

\[ \text{I: Animal Signaling Theories} \]

The definition of rhetoric above differs markedly from most descriptions of animal signaling in general, so it is important to explore how rhetoric is a special case of animal signaling. Demonstrating this will require a summary of some major trends in analyzing signals. As mentioned in the previous chapter, leading evolutionary biologists Maynard Smith and Harper tell us that a signal can be “any act or structure which alters the behavior of other organisms, which evolved because of that effect, and which is effective because the receiver’s response has also evolved.” A fundamental difference between the definition of rhetoric I have provided and common definitions of what animal signals are, then, lies in the idea that a signal can be a “structure” that evolved independent of the will of the individual, rather than an intentionally produced sign. This should please those who disagree that rhetoric must be

\[ 112 \text{ Maynard Smith and Harper, } Animal signals: 116. \]
\[ 113 \text{ Ibid., 3.} \]
intentionally produced. It should also please those who agree that rhetoric is not purely a verbal behavior. Camouflage, warning coloration, structures selected by nature to resemble sticks or leaves—these are all signals (and if they were intentional, I might declare them rhetoric, as well).

One thing that I would stress is not different is that rhetoric, like all types of signals, has been selected to display its present forms. Animal brains have evolved over countless generations to confront the behavioral challenges each species encounters in the range of environments it occupies. As survival problems arise, those individuals whose brains respond with a more efficient solution are often able to live longer and breed more, thereby passing on the genes that are required to develop the sort of brain that would create that variety of productive response. These genetic alterations tend to accumulate, if useful. Behavior, including communication and (specifically) persuasion, is thus altered and passed down to future generations. Culture provides a secondary filter through which a wide range of rhetorical possibilities are strained, leaving only those culturally appropriate acts in place. This holds true in multiple primate species, and possibly other intelligent animals that we suspect could demonstrate some level of group culture.¹¹⁴

It must be noted that the idea that animal cultures could exist and affect communication is very new, and for most species not substantiated. That Western scientists even entertain the possibility of animal cultures, however, is a sign that the west is relaxing the stranglehold of a religious worldview that places humans above other animals on a great chain of being (indeed, that some Americans even refer to humans as animals these days represents a major shift toward scientific thinking). Nonetheless, viewing communication in terms of animal cognition and

psychology, let alone the possibility of the evolution of culture in animal groups, is quite new in
the study of animal signaling. It has only been a matter of decades since some western scientists
gave up the view that animals were little more than automatons, a view which colors the early
study of animal communication. But this is a point the following brief history of animal signaling
theory should help make clear. I have divided it into three parts, but the first two categories mix
and blend, which I attempt to explain when discussing hybrid signaling theories.

1.1 Honest Signals

The study of animal communication in the early days of formal ethological investigation
can be likened to the study of behavioral locks and keys. Animal signals functioned as an
individual’s response to environmental pressures. This response in turn acted to “release” a
stereotyped behavior in receivers, who were programmed to react in certain typical ways.\textsuperscript{115} Hence the metaphor of locks and keys – a successful signal was not merely an honest signal, but
it was automatic, as far as a rhetorician might be concerned. Impulses within the signaler would
instigate the use of a signal, allowing the release of the ‘desired’ behavior in a receiver.

The process became somewhat more complicated when our metaphors for framing the
discussion of intelligence and behavior entered the digital age. Along with the rise of the
personal microcomputer, ethology saw a shift in discussions of communicative behavior from
that of impulses and unlocked responses to that of information communication and processing.
Signals in the animal world began to be interpreted in terms of transmission; in 1977 John

\textsuperscript{115} Niko Tinbergen, \textit{The study of instinct} (Oxford: Clarendon Press, 1951), 171.
Maynard Smith, who later revised his opinion to what we see at the beginning of this section, wrote of animal signaling in a way that suggested a simple sharing of honest information between signaler and receiver, such as the transmission of information about a bird chick’s hunger state to its parents, who would potentially receive this information and react accordingly (i.e. feed it).\textsuperscript{116}

To transmit such information could potentially be costly, especially for ground-nesting species, and so transmitting such signals should be undertaken only in times of need. Catching the unwanted attention of a predator rarely turns out well for a bird chick (and we will discuss costly signaling below). However, if this information is honest, then it will be worthwhile to transmit – parents must be able to discern which chicks are in dire need of feeding, just as other parents need to know if their offspring are in trouble, or if they have gotten themselves lost. There are many scenarios in which the ability to share information increases the likelihood of survival. However, animals learn.\textsuperscript{117} Once a baby chick figures out that urgent signaling in the presence of its parents leads to feeding, it employs this strategy even when it is not in dire need. Thus the goals of parent and offspring can become out of sync, causing competition rather than cooperation.

While the information sharing model of honest signaling is a powerful explanatory tool in some circumstances, it fails to take into account the problem of deception, and this will be an important problem for later signaling theories, as well as the treatment of rhetoric as a particular form of animal signaling. There are, of course, situations where it is physically impossible for an


\textsuperscript{117} Though we might also say that the animals in the following case have evolved mechanisms to enable the learning in question.
individual to employ deception. Signals made in these situations – signals which ethologists call indices – offer insight into some quality of the signaler, such as size, strength, or intelligence.\textsuperscript{118} If, for instance, we find that a larger bullfrog (\textit{Rana catesbeiana}) displays a deeper call, then it is easy for females to tell which individuals will be more suitable for mating, if size is among their desiderata. They merely need to listen to the call, which is an index to the size of the bullfrog. Indices, however, make up only a small portion of animal signals, and even those animal signals that are very costly to make can be faked, now and again.\textsuperscript{119}

\textit{1.2 Deceptive Signals}

We have already considered the case of greedy chicks who, wanting more food than is their share, call for the same food their (potentially very needy) nestmates are calling for upon the arrival of a parent. There are many more situations like this in the wild, where signaler and receiver interests do not perfectly align. Certainly every parent would love to perfectly meet the needs and desires of their offspring, and birds with unlimited food stores may be able to provide for both the needy and the greedy. However, such bounty in nature is rare. Most parents try to divvy up resources as equitably as possible, until the situation becomes desperate (at which point, strategies can differ markedly). This reveals one fundamental problem of honest signaling theories, a problem that amounts to little more than the fact that two or more individuals can have a difference of opinion.

\textsuperscript{118} Maynard Smith and Harper, \textit{Animal signals}: 1-2.
It is easy enough to imagine other situations where the interests of two or more parties do not align. If one is having a stroll in the African savannah and happens upon a famished lion, a clash of interests is inevitable. While the hungry lion’s interests lay in having some food in her belly, any reasonable human being would at the same time be interested in not becoming said food. It makes sense, then, that deceit is “the most prevalent form of prey-predator communication” in the animal world.\textsuperscript{120} If one is able to outwit the lion, buying time to somehow escape back to one’s Land Rover, then it is quite beneficial to do so. While it might not be as simple as telling the lion her mother is calling, and hotfooting it in the opposite direction, any chance at manipulating the lion’s behavior to one’s own benefit would aid one’s chances at escape – something I am told is quite difficult when a nearby lion decides that one looks tasty.

Manipulation of others, say Dawkins and Krebs, is the primary function of communication.\textsuperscript{121} When interests conflict, signaler and receiver can enter into a sort of evolutionary arms race, wherein manipulative signals become ever more persuasive and, in response, receivers become ever savvier at detecting manipulative behavior. (If one does not believe this argument, one need only view the ‘progress’ marketing executives have made in creating television commercials designed to swindle the consumer out of his hard-earned money over the years.) Yet, manipulation need not be malevolent; if your five year old son makes ‘puppy dog eyes’ at you until you let him play laser tag with his friends, instead of cleaning his room, nobody is truly getting hurt in this situation. If we tell our partner that we had a bad day and hold out our arms, we are manipulating them into giving us the hug we desire. Again, no malevolence intended. Manipulation can be value neutral, or even laudable – few people would

\textsuperscript{121} Dawkins and Krebs, "Animal signals: information or manipulation? ."
truly complain about being given a surprise Christmas bonus when they were hired under the false understanding that no such bonuses existed. The company certainly looks like a better place to work after that, perhaps allowing it to retain the best and brightest, and the employee is happy for the extra money. Everyone wins.

Manipulation is a fact of animal life. Famously, Nicholas Humphrey noticed that the information processing skills of non-human primates in captivity far exceeded those necessary to lead the life of a forager in the wild. Hunting, predator detection, securing shelter – activities like these did not demand the levels of intelligence that primates display. So, knowing as we do that natural selection is a frugal mistress, who does not allow excess without purpose, why did primates develop this excess of intelligence? Humphrey set out to find an answer to this riddle, and what he came up with was at once shocking and obvious: primates need large amounts of surplus intelligence to navigate the demands of their complex social groups.\footnote{Nicholas Humphrey, "The social function of intellect," in Machiavellian intelligence : social expertise and the evolution of intellect in monkeys, apes, and humans, ed. Richard W. Byrne and Andrew Whiten (Oxford: Oxford University Press, 1988).} Primates, especially our closest relatives from the old world, have developed what has come to be known as ‘Machiavellian intelligence,’ referring to the ability to manipulate the behavior of others for selfish ends. Because we are social creatures, we need additional resources for keeping track of various group dynamics, such as status hierarchies, and exchanges of favors. But most of all, primates develop their social intelligence to manipulate one another.

As mentioned above, manipulation does not necessarily entail abuse. And Whiten and Byrne have argued that actual deception in primate groups must be relatively rare.\footnote{A. Whiten and R. W. Byrne, "Tactical deception in primates," Behav Brain Sci Behavioral and Brain Sciences 11, no. 02 (1988): 233.} This makes
sense, considering the small group organization of many primate groups. Humans are an exception, of course; for cultural reasons we have for a few hundred years expanded our tendency to congregate in cities, but this is a very new innovation. Our brains did not evolve to keep track of such large groups of people, which could be one reason we retain small group subdivisions, such as family units, neighborhood groups, and local social organizations (churches, bowling leagues, Elks lodges, etc). Within smaller groups like these, it is easy enough to recognize individuals and keep track of what we might call ‘their politics,’ or their histories of behavior toward other members of the group. When one considers, for instance, the amount of information an employee in an office building collects on the social, political, and economic lives of his or her coworkers – the minutiae of office politics – one quickly comes to appreciate the power of the human brain. From a physical standpoint alone, each trivium regarding who Marge was kissing in the janitorial closet at last year’s holiday party, or what Dan said to Larry at the art department meeting that turned them from the best of friends into sworn office-enemies, the amount of storage needed to file away all of these social interactions is astounding. Surely the laptop I am using to type this manuscript could not hold more than a few months’ worth of such social observations as humans make, let alone a lifetime’s. Our ‘Machiavellian’ intelligence is among the many remarkable things about our species, a scaffold for what is commonly considered our defining characteristic – the use of language.

It is easy to understand, then, why manipulative signaling theories are so attractive. However, some difficulties arise if we attempt to universalize. If all signals were manipulative and detrimental, why would they have evolved? Surely it would be more advantageous for a receiver to simply ignore the communications of other individuals, if the only purpose they...
served was to take advantage of others. As Zahavi and Zahavi explain, “[i]n order for communication to take place, both the signaler and receiver must benefit from it.” These benefits need not be direct and immediate, but on the whole communication must provide a net gain in the quality of lives of those who communicate. If manipulative signaling holds, then a large portion of these manipulative signals must depend on signaler and receiver sharing mutual interests. Some deception may still occur, especially in those cases where interests collide. In some cases deception might even be allowed to carry on because the price of calling another’s bluff is higher than allowing the cheating to transpire. However, in an environment where cheating is the norm, it seems unlikely that communication would continue.

I.3 Hybrid Theories

The idea of manipulative signals added nuance to the earlier ‘lock and key’ and ‘honest information sharing’ theories of animal signaling. In some situations manipulation is indeed the best explanation for communicative acts, but a further development will round out our general overview of animal signaling theory. If manipulation occurs primarily when signaler and receiver interests are misaligned, then what happens in the frequent situations wherein signaler and receiver share a common interest? In 1975 Zahavi and Zahavi kicked off the modern research program on costly signaling by introducing the handicap principle. What the handicap principle states is that we can be certain of the honesty of some signals because of the high cost to make them.

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A poignant example comes from the stotting of Thomson’s Gazelles. These gazelles, when alerted to a predator’s presence, rush off as a herd, but some of them pause in mid-pursuit to make dramatic leaps straight up into the air. When gazelles stot like this, they are actually signaling to the predator that they are the fittest individuals in the herd. A weaker individual would not be able to waste valuable energy by stotting, an activity that actually slows the escape of the gazelle. In this way, Zahavi and Zahavi argue that signaling occurs because predator and prey interests align: it is in the predator’s interest not to waste precious energy and time pursuing a strong gazelle that could escape, and it is in the gazelle’s interest to demonstrate that it is too costly to pursue (the proximate goal, stemming from an ultimate goal of not wanting to be eaten).

Costly signals such as these indicate qualities of individuals because they are difficult to fake. Higher quality individuals will be able to make the costly signals that lower quality individuals cannot, or at least cannot afford to. Likewise, some costly signals are effective because an animal is in greater need than another. If a contest arises wherein one individual is in dire need of resources while another is not as desperate, it would not benefit the latter individual as much to escalate the conflict. Thus, some costly signals have evolved in order to demonstrate need. Displays of greater need will often convince an opponent that ‘this individual has nothing to lose,’ while a physical altercation could be quite costly.

Maynard Smith and Harper provide three scenarios under which a signal could be considered trustworthy: the handicap principle, the signaler would not gain by lying, or the signal could not be faked (i.e. it is an index of some desirable quality, as described above).¹²⁶ Reasons the signaler would not gain by lying include the following: sharing of common interests,

punishment of dishonest signals, a desire to avoid confrontation, or potential effects on reputation.

Most researchers now believe there is a range of signals employed – some honest, others dishonest – in the natural world. The challenge to theories like the handicap principle is in figuring out which signals are indices, which are handicaps, and of the signals that are handicaps which ones are more and which ones are less difficult to fake. Quantifying signal costs in the wild is extremely difficult. If one instance of stotting (to employ the familiar example) temporarily takes pressure off a gazelle of moderate physical endurance, but doing this means it has to run that much faster to catch up to higher quality gazelles, or gazelles that did not stot, is it worth it to try to persuade the predator? If we could ‘check under the hood,’ as it were, and monitor the physical processes of animals in the wild, it might be easier to develop the sophisticated mathematical models it takes to create what amounts to a cost/benefit analysis with regards to the question: “Shall I perform this costly signal?” As it stands, there is some educated guesswork involved. Nonetheless, it is clear that there are, in fact, some signals whose costs restrict their use, thereby guaranteeing a relative level of honesty or predictability.

II: Rhetoric as a Particular Form of Animal Signaling

“Communication is very much the norm among almost all species on the planet, whether it be between animals, insects, plants or
bacteria, but language is normally considered to be something very different.127

Simon Kirby’s assertion that language is often considered somehow unique or removed from other acts of communication is an important reminder of the long history of anthropocentric thought in the West. Language is certainly a complex form of communication, one that allows humans to organize themselves to complete the most amazing, and the most horrifying, projects this planet has seen undertaken. While animal signals rely on words or phrases counted in the tens or hundreds, there is no other form of communication that demonstrates a natural syntax – an ordering of words like troops on a battlefield.128 Our thousands of words, multiplied by the position-sensitive code of syntax, create an almost-unlimited palette from which to communicate meaning to other language users.

However, language use is only assumed to be the most complex and intelligent form of communication on the planet. Is it more efficient than ant pheromones? Is it more sophisticated than the electrical impulses of fish and eels? Does it demonstrate the direction of food sources better than a waggle dance? While I admit that I do feel language is the most complex, and potentially the most effective, form of communication we have studied thus far, my point (like Kirby’s, I think) is that special treatment can be taken too far, when it blinds us to the similarities we share with other communicative species. In fact, there are those who argue that human communication is merely the most complex form in a continuum of communicative behaviors;

intermediates exist between simple forms of animal communication and human language use, and language use likely evolved incrementally.\footnote{Ray Jackendoff,\textit{ Foundations of language : brain, meaning, grammar, evolution} (Oxford; New York: Oxford University Press, 2002), vii ff.}

If it is important to remember that we are not alone in our drive to communicate with one another, then it is imperative that we recall that rhetoric is not dependent on the use of language. Rhetoric is an extra-linguistic category of behavior, which can appeal to any of our senses. Language is an awfully good method of communicating, for instance, that we should all evacuate a building. One can shout “Get out!” and people might listen, but one could just as easily persuade others to leave by means of flashing lights, alarm bells, or even a well-placed stink bomb. For those who are deaf, spoken language can be useless without the ability to read lips. People who speak languages other than that being used at the moment would have to infer from tone and urgency, as well as the fact that others are fleeing before them, that there is a reason to leave.

My point is not to argue against the usefulness of language. However, we must consider this: while rhetoric employs symbols, rhetoric is something more than mere symbol use (or misuse, contra Burke). Rhetoric is a drive to persuade, to communicate (via language or other symbolic means), and to manipulate. It is, in fact, a behavior that constitutes a special form of animal signaling, based on the ability to attribute beliefs to others – beliefs that we can attempt to change. I have summarized the high points of animal signaling theory above in order to demonstrate the concerns one must consider when arguing that rhetoric is a particular subcategory of animal signaling. This helps connect the idea that rhetoric is signaling to the specific applications of theory that come later in this work. Rhetoric, in terms of animal signaling
falls into the hybrid theories category. It is intentional, and it is manipulative. Rhetorical moves can be honest signals, but they are always manipulative. A persuasive act is an attempt, as I will argue in chapter five, to change attitudes and beliefs, and to call on others to act based on their newly altered states of mind.

**II.1 Genre, Speaker, and Audience**

If rhetoric is a special form of animal signaling, as I argue it is, then these two fields of study, having evolved in isolation from one another up until now, should demonstrate some parallel structures or common concerns. Much like the light-sensitive eye evolving in several isolated lineages, separate fields concerned with animal signals should demonstrate their own commonalities of approach, if they are in fact attempts by humans to make sense of similar theoretical challenges, only employing different methods. I want to briefly suggest two such similarities in ethology and the history of rhetoric that are illustrative of the shared concerns of animal signaling theorists and rhetorical theorists, before recalling a revealing bit of ethnographic work that suggests certain irrational human behaviors can be made sense of through costly signaling theory. This will help guide our readings of the final chapters of this work, wherein we apply evolutionary cognitive psychology to the art of rhetoric, in hopes of expanding our view of rhetorical theory.

The first connection is one of *teloi*, or ends, and is not one that is necessarily clear to most animal signaling theorists who are unfamiliar with the art of persuasion. However, most rhetoricians will identify the connection before I make it explicit. Maynard Smith and Harper
suggest that animal communication requires three distinct skills: the ability to produce the correct signal to gain audience attention, the ability to match a signal to the demands of circumstance, and the ability to elicit the desired response by means of the signal. Having mentioned Cicero’s offices of rhetoric at the beginning of this chapter, the startling similarities between these points of view should be apparent. To delight, to inform, and to persuade serve alternately as both means and ends in Cicero’s rhetorical theory. As ends, they are self-explanatory. As means, they require unpacking, briefly. To delight is useful as a way to engage the audience, to capture and hold its attention. To inform them, then, is to convey the relevant facts, particular to the case at hand. Finally, to persuade (again, as a means, not an end) is to devise and execute a proper rhetorical strategy to elicit the desired response in one’s audience.

The correspondence between Maynard Smith & Harper and Cicero is close, and is no coincidence. Persuasion is at the heart of all animal signaling. When it is intentional, we are tempted to call it rhetoric, but even warning coloration is an attempt, made at the genetic level by the combinations of selfish genes an animal is composed of, to persuade predators that an individual is toxic, and should not be eaten. Just as ‘intentional’ acts like gazelle stotting are signals to predators that individuals are fit and healthy, unintentional signals, like the size of a peacock’s tail, hold the ability to persuade peahens that an individual has good genes and is worthy of mating. What Cicero has done is apply a bit of folk psychology to the task of explaining human behavior. While he did not understand the physical processes behind

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131 I put scare quotes around the word ‘intentional’ not because I am unconvinced there is intent, but because it is worth mentioning that the idea of animal intentionality is still disputed by some animal researchers. I find this view rather uncharitable – that animals are mere behavior-producing machines, carrying out their programmed responses to environmental challenges – but the evidence for animal cognition could often be categorized as suggestive rather than conclusive. This is in many ways a problem of animals not having language, as far as we know, that allows them to discuss their mental states. That animals form beliefs, and moreover that they attribute beliefs to others, then, is a matter of educated guessing in some cases.
persuasive behavior, he was able to observe the modes of effective rhetoric employed by
speakers and writers of his day. Many of the advances in rhetorical theory have been made by
similar means, and in chapter six I will attempt to enrich our folk psychological explications of
memory by uncovering the actual mental processes underlying the fourth canon.

If folk psychology has been effective at identifying the offices of rhetoric, then there
must be other places where our ‘common sense’ observations about rhetorical behavior have
yielded conclusions that align with those found in animal signaling theory. I have already
discussed the ways in which rhetorical division by genre is represented by animal behavior
(Chapter III). As examples, I discussed the female bowerbird’s ‘artistic’ taste as an instance of
deliberation. Judicial rhetoric was illustrated by the conciliatory actions of male bonobos who
had mistreated their fellows in the past. Epideictic rhetoric was then compared to the pre-hunt
gatherings of African wild dogs. However, these divisions were the products of rhetorical theory
applied to natural acts of non-human animals. It is rare for animal signaling theorists to discuss
these divisions vis-à-vis rhetorical genre, but the same general types of categorization do exist.
Epideictic examples are especially salient, since they are of especial interest to those who study
social species. Congresses of crows, mutual reassurance touching by chimpanzees gathered
around a python, and bat scent marking are all activities that establish or reaffirm group identity
or solidarity.

A stronger correlation between the observations of rhetoricians and ethologists is
demonstrated by the common division of speaker and audience. For intentional beings who
practice a theory of mind, this division is so obvious as to be almost unworthy of attention. Yet,
it is significant for many reasons. To divide speaker and audience is to attribute beliefs to the
latter and the will to alter those beliefs to the former. Such a division also allows for the separate consideration of signaler and receiver motives. *(Why is she telling me this? How can I convince these people to do what I want?)* Throughout the history of rhetoric, rhetoricians have treated either speaker concerns or audience concerns as more important than the other (and I will discuss audience-centered rhetorics in Chapter V). Just as Owren categorizes the two famous theories of animal signaling as being dominated by selfish signalers (Krebs and Dawkins, 1978) or by selfish perceivers (Zahavi and Zahavi, 1975), the history of rhetorical theory has been a history of bifurcated interest. 132

Kaplan argues that the most productive way to view communication in any species, or among heterospecifics, is by separating the interests of signalers and receivers and treating them in turn. 133 Most often, rhetoricians do just that. In fact, it is the exceptions to this rule that are novel and surprising. When Lewiecki-Wilson describes the “mediated rhetoricity” of the disabled – rhetoric that is co-created by third parties, such as parents, advocates, or caregivers – we begin to understand how firmly implanted in our minds the constraints of thinking of a single-speaker persuading an audience really are. 134 Suddenly there is a co-rhetorical category of speakers, or more interestingly, a ‘representer’ of the presumed intent of those who are unable to speak for themselves. Such considerations problematize what is otherwise a standard division we rarely bother to analyze.

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133 Kaplan, "Human communication and contemporary evolutionary theory," 114.
However, the treatment of the relationship of speaker to audience is in many situations a natural and helpful trait of both rhetoric and animal signaling theories. Cartmill and Byrne describe an illuminating experiment that provides evidence for a sophisticated understanding of audience concerns among orangutan rhetors.\footnote{Here and in the following description, E. A. Cartmill and R. W. Byrne, "Orangutans Modify Their Gestural Signaling According to Their Audience's Comprehension," \textit{Current Biology} 17, no. 15 (2007).} In the experiment, they observed that orangutans would monitor audience understanding of the signs they used to communicate. If it was clear that human observers understood the signs used, the orangutans would continue to use the same gestures in future communication. If they were only partially understood, the orangutans would narrow the range of signs they used so as not to confuse the observers. If it was clear that the orangutans were misunderstood, rather than desisting, they instead attempted to enhance communication by expanding the range of gestures used. This experiment shows us that “orangutans are able to evaluate their own level of success in communication and modify subsequent attempts accordingly.”\footnote{Ibid., 1346.} So it is not just humans who are aware of the rhetorical relationship between speaker and audience. It is, it seems, a natural entailment of a mind that can attribute beliefs to others. What this means for the theory of rhetoric is that it will be useful to explore just how our theories of mind influence the persuasive efforts of humans and other intelligent social animals.\footnote{For the claim that there is “suggestive evidence” that other animals demonstrate a theory of mind, cf. M. D. Hauser and D. A. Nelson, "Intentional' signaling in Animal communication," \textit{Trends in ecology & evolution} 6, no. 6 (1991).} I will explain just how important this relationship is in the next chapter, but first I want to end with an illuminating example of how costly signaling theory has been applied to human behavior to help understand what can only be described as actions taken
to persuade others of an individual’s prestige: Rebecca Bliege Bird’s ethnography of the turtle hunters and spear fishermen of the Meriam peoples of Australia.\textsuperscript{138}

\textit{II.2 Costly Signaling and the Meriam Turtle Hunters}

The Meriam are a Melanesian people of the Torres Strait, in Australia.\textsuperscript{139} Much of their livelihood depends on farming and collecting shellfish from the sea. These activities are generally non-communal, each family mostly performing its own food-gathering by the most efficient means it finds available. However, there are two instances of irrational food-collecting behaviors that struck researcher Rebecca Bliege Bird as irreconcilable with the idea that the most efficient hunting and gathering practices would be passed from generation to generation, leaving the less efficient means to die out of a population.

These practices are turtle hunting, which provides the community with meat for public feasts, and spear fishing to the exclusion of other available activities, which is less efficient than the opportunistic method of spear fishing when there are fish and collecting shellfish when there are not. Both of these irrational behaviors are almost solely male-dominated, and both have a direct connection to the hunter’s status within a group. What Bliege Bird found in her observations of the Meriam males who hunted for turtles and speared fish exclusively was that there may in fact be a reason for them to make decisions to bypass more efficient activities, to distribute goods to the community without recompense, or to incur the increased risk of injury these activities entailed.

\textsuperscript{139} Ibid., 10.
It turns out that engaging in turtle hunting or spearfishing exclusively constitutes a costly signal meant to indicate some fitness trait in the individual performing these actions.\(^{140}\) When polling individual Meriam people Bliege Bird came to the conclusion that the most frequently seen spearfishers receive a significant increase in status among the group. Additionally, these men are assumed to possess certain important survival traits, such as speed, strength, or skill.\(^{141}\) Turtle hunters, likewise, are deemed skillful hunters who could afford to take a day off from providing for their families to secure meat for the benefit of the village.

In both cases, the hunters and fishermen deemed most-skilled are specialists who spend significantly more time at the activity than others. This allows for several advantages. First, both activities involve very public displays of these signals. For the spear fishermen, they perform their duties in plain sight of the women who were busy collecting shellfish nearby. For the turtle hunters, the provision of food for the entire village is a necessary prerequisite for the feast to be held. Bliege Bird notes in her time among the Meriam people that catches are always quietly, but conspicuously, displayed for public viewing on the return home. No containers are deployed to make the fish easier to carry, despite their ubiquity. Rather, each man’s haul is on display for the rest of the village to see.

Both turtle hunting and spear fishing are used to enhance status. Employing a less efficient means of collecting food, as in the case of spear fishing, or securing goods that can be distributed among the entire village, as in the case of turtle hunting, means each individual performing these activities will acquire less food. Turtle hunting and spear fishing thus act as costly signals to others that an individual was of high enough quality to be able to afford such

\(^{140}\) Ibid., 9.
\(^{141}\) Ibid., 12-3.
inefficient uses of their time and energy. In a way, this is reminiscent of the European renaissance custom of conspicuous consumption (still in fashion in many Western sub-cultures today). It is a statement meant to impress others through nonchalant wastefulness: “Look what I can afford to waste my time and money on!” Perhaps not an excess to the extent of owning private jet airplanes and fuel-inefficient Humvees, it is nonetheless an extravagance that would be harmful to continue in times of dire food shortage.

II.3 Conclusion: Costly Signals, Audience, and Theory of Mind

The significance of the Meriam turtle hunters should by now be clear: costly signaling theory can help us explain some of the irrational actions of humans. Or, rather, it can rationalize the seemingly irrational actions of humans who are in a position to trade the direct benefits of expanding their personal food stores for the rather more nebulous and long-term benefits of raising their level of prestige. This is only one example of the ways animal signaling theories can help us understand our own behavior, and it leads us to wonder how the study of other types of human signaling can enrich our view of human communicative behaviors.

Particularly salient to the study of rhetoric is the manipulative signaling theories of Krebs and Dawkins, as well as the related Machiavellian intelligence theory of Humphrey. The idea that primate intelligence is so over-developed for the direct tasks of survival, and that this extra brainpower derives from our need to keep track of complex social relationships, suggests that primates spend a great deal of time manipulating one another in order to get their way (and please recall that this is not necessarily an indication of malevolent intent – we can manipulate
for good or ill). Complex negotiations emerge, and the persuasiveness of individuals becomes a strong indication of how well they will fare in the small group environment most primates maintain.

Humans, in particular, strain the boundaries of our social intelligence due to our sheer numbers. Yet, we find ways of overcoming the physical limitations of our species by inventing devices to project our manipulative rhetoric to greater and greater audiences. I imagine this started quite simply by cupping our hands around our mouths to direct sound waves outward in a more focused direction. Later, perhaps, someone fashioned a rudimentary bullhorn out of tree bark or bound leaves, much as modern American children repurpose old paper towel tubes to bellow at one another. The real thing then followed. Radio and television were late comers to the scene, but their power to distribute rhetorical acts over time and space is overwhelming. At the beginning of the 21st century, communication technology has advanced to the point where I can be verbally abused by the adolescent children of just about any country on Earth, just by inserting a Halo 3 game disc into my Xbox 360 and donning my headset.

While my example of internet gaming is somewhat tongue-in-cheek, there is an important point to be made: the art of rhetoric is a special form of animal signaling, and humans have expanded their ability to signal into every nook and cranny of our planet, and beyond. If Carl Sagan is correct, and I am inclined to believe him in most matters of astronomical fact, Adolf Hitler’s 1936 television broadcast to open the Olympic Games in Berlin, the first major televised event broadcast with enough power to break through Earth’s ionosphere, has now traveled 85 light years from Earth (at the time I am writing this essay). There are already 25 known stars within a mere 11.6 light years from Earth, meaning there is at least a slim chance intelligent life
could have developed within that distance. This leads us to the terrible conclusion that the Nazi party has been acting as Earth’s primary ambassadors for up to 64 years. Talk about broadcasting costly signals!

Bringing the discussion back to Earth, I want to reiterate the points made above. Persuasion is a special form of animal signaling, and (especially for humans) it is an immensely effective one. It differs from other forms of animal signaling, in that it is behavioral, not merely a physical structure, and in many cases can be said to be employed with intent. In the previous chapter, I suggested a number of reasons rhetoric might have evolved: it is less costly than physical conflict, it helps us form and strengthen group identity, it can help us secure mates, or even gain political power or prestige – like the Meriam people above. If this is so, then we must begin seeing rhetoric as influenced by both evolution and culture.

In the final chapters of this work, I will presume this idea that rhetoric must be treated as a biocultural phenomenon is established. This will allow me to demonstrate the explanatory power of a biocultural approach to rhetorical theory by applying two strands of evolutionary cognitive psychology to the study of persuasion. First, I will explain that if rhetoric is a form of animal signaling, then it must be based on at least a rudimentary theory of mind. That is, it must proceed from the understanding that other individuals have beliefs or states of mind that can be altered through the use of persuasion. In what is possibly the most important connection I make in this work, Chapter V will explore the ways our theories of mind are the necessary foundations of all rhetorical activity. Without them, we would have neither recourse to, nor need for, the art of persuasion. We would be a sad group of objects in a dismal clockwork world. Through the topic of audience design, I conclude my argument with some suggestions for further exploration.
of the importance of theory of mind research in rhetoric. Emerging theoretical trends indicate that some possibly useful work can be found in audience design theory, or in receiver psychology, which once again strengthens the connections already established between rhetoric and animal signaling.

Finally, I will address an area of study most rhetoricians will be at least partly familiar with – that is, the canon *memoria*. By comparing the study of memory in the history of rhetoric to the study of memory in evolutionary cognitive psychology, I can not only point out the strengths of rhetoricians’ history of identifying the sources of our persuasive behaviors, but I can also enrich our discussions by adding what we know so far about the underlying mental processes. Attempting to understand memory without an understanding of the evolved mind, an embodied mind, would be much like attempting to understand the laws of planetary motion without recourse to physics or math. The history of rhetoric has so far been based primarily on careful observation alone. This can accomplish many things, but it cannot lead us toward the complete picture we desire.
Chapter V: Rhetoric and Theory of Mind

I. Writer, Reality, Audience, and Language

In the previous chapter I argued that human persuasive efforts are continuous with the rhetorical acts of other animals. Rhetoric is, in fact, a category of animal signaling. Specifically it is the intentional act of communicating to inform or manipulate a conspecific or audience-construct. I write “audience-construct” because audiences as human beings envision them really do not exist. There is no true gestalt of audience, and this is one of the constraints biology places on rhetorical acts – we do not have the capacity to fully comprehend the mental states of every individual we address. Rather, we mash them together into a vague representation of common characteristics we call audience. This conception of audience has far-reaching consequences for the practicing rhetor, not least of which is the knowledge that no rhetorical performance will ever be perfect. There is no catch-all approach to persuasion, and while formal training in the art of persuasion may increase one’s awareness of persuasive strategies, the appropriate metaphor for this sort of training is still that of adding tools to one’s toolbox; there are no magic wands in rhetoric.

Understanding this implication of a biocultural view of persuasion raises the question of how else the study of biology and culture together might influence one’s view of rhetoric. James Berlin insists that rhetorical theories differ from one another based on how they conceive of four
concerns: writer, reality, audience, and language. Every teacher of composition bases his or her rhetorical theory on the ways they interpret reality, and this guides their classroom practice. Berlin’s heuristic may be useful for fleshing out some of the remaining issues a biocultural approach raises. As we have already discussed language in the preceding chapter, I will forgo an extended discussion, but this chapter will address the other three concerns – writer, reality, and audience – by introducing one of the most important contributions of evolutionary psychology thus far: theory of mind.

Theory of mind (ToM) is the ability to attribute beliefs to other minds. Often called mind-reading, a person’s ToM is the basis of the seemingly mundane idea that “If I can think, plan, scheme, remember, feel, or believe, then so can other people.” Because the mind is embodied (see discussion of grounded cognition, Chapter VI), we are able to tell much about a person’s cognitive state by reading his or her body like a text. Indeed, we call it body language for a reason – many of our physical actions betray our inner mental states. In its simplest form, we know that eye direction can indicate a goal or desire: “Mary is staring at my ham sandwich. Should I offer her a bite?” Or it can demonstrate attention to something important to the health and survival of an organism: “Mary is staring at my ham sandwich. Is there a disease-ridden cockroach crawling on it?” And it can even interpret complex relationships between minds, like the triadic: “I see that Bob is watching Mary stare at my ham sandwich. Does he want a bite, but is afraid to ask because he thinks Mary will get to it first?”

ToM is not always perfect, of course; it could be that Mary is looking down at my plate while she thinks about something. Bob might not be watching Mary at all, but the waiter

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standing behind her, chatting to another table despite Bob’s impatience to place his order.

Nonetheless, our theories of mind are correct a surprising amount of the time, allowing us to live as members of a highly social species, attuning ourselves to the thoughts, intentions, and feelings of others. I will continue this discussion of ToM below, after I have introduced two of ToM’s friends, EDD and SAM, who one needs to get acquainted with before one can truly understand ToM. I wanted to preview this discussion, however, in order to confront the idea of reality, one of Berlin’s heuristic categories for understanding rhetorical theories.

The idea of reality in a biocultural context is fairly straightforward, but important to mention. First, there is an external reality that each individual may sense by means of inputs traveling through specialized organs that have evolved because detecting these features of the external world aid survival. The sense organ signals are interpreted by a nervous system designed to receive sense data and organize them into a snapshot of the world as an individual senses it. Biological restraints color each person’s perception of the world, just as each species’ biology dictates its view of external reality. If white-tailed deer could see blaze orange, for instance, humans would have to develop another way of distinguishing themselves in their woodland surroundings every November, when they attempt to exploit the deer’s visual limitations while remaining safe from other hunters who might become excited at the sounds of a large animal walking through the forest. But biological constraint is not the only shaper of reality-perception. Humans, as well as chimpanzees and possibly other animals, are also shaped by cultural forces that influence our perception of the world.143

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Despite allowing for the obvious influence of culture, the biocultural view still differs sharply from strong forms of social constructivism, or from solipsistic metaphysical views like those of Bishop Berkeley, in that the biocultural critic believes that there exists ‘out there’ an external world that does not depend on our being and that our biological traits have evolved to gather information about that external reality. While there is much to argue in this statement about the physical world, the place is not here. It is merely my desire to explain the biases that guide this rhetorical theory before I move on to discuss the two final categories Berlin suggests – writer and audience. Since I am not focusing on composition alone, but rhetoric in all its forms, I will humbly retask Berlin’s category to discuss not just writers, but rhetors. As I mentioned above, however, I will first want to introduce EDD and SAM before discussing ToM and its relevance to a rhetor’s practice of constructing an audience.

II. EDD, SAM, and ToM

In many ways, the following sections cover the same ground Kenneth Burke addressed when he was composing *A Grammar of Motives*. I, too, am “concerned with the basic forms of thought which, in accordance with the nature of the world as all men necessarily experience it, are exemplified in the attributing of motives.”144 Fortunately, I am now able to incorporate new information from evolutionary cognitive psychology that enhances our understanding of human motives. This is information that I am certain Burke would have loved to have been privy to,

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judging by the value he placed on a neo-Darwinian explanation of persuasive efforts, but it is information that has only emerged in the last decade or two. Current research on joint attention was not available to Burke, but it is nonetheless important to rhetoricians because of rhetoric’s fundamentally other-oriented trajectory. Little of what we study as rhetoric is self-persuasive; although we do practice this form of persuasion regularly, the study of rhetoric is at its heart the study of seeking and manipulating the attention and beliefs of others. It is an inescapable human practice, and elaboration of current research in cognitive science could shed light on rhetoric’s ties to joint attention and theories of mind.

II.1 Eye Direction Detector

From an early age humans feel the need to share attention. Sometimes we do this consciously, but much of our jointly attentive activities are hard-wired, happening without our conscious direction. The Eye Direction Detector mechanism (ToM’s friend, EDD) is one example of early-developing mechanisms we have for monitoring the attention of other animals. Localized in the amygdala and the superior temporal sulcus (STS), eye direction detection begins almost immediately in humans, developing regularly by 1 month of age. Before they are able to walk, talk, or fend for themselves, children attend to the objects their parents expose them to as the children are carried around their environments. This action provides a sort of assurance that each participant in the joint attentional exercise is participating equally and attending to the same object. Later, when a toddler begins brief explorations on his or her own, the child will

bring back objects to show his or her guardian before returning to explore once again. These early forms of joint attention are not only precursors to a fully developed theory of mind, but they also serve as scaffolding for its later development.146

The reason EDD likely became a regular feature of human development was the success individuals found who were able to detect “eyes directed at me.”147 This ability served as a way of quickly gauging predatory intent in other animals. EDD is essential for the attribution of motives, a task that should betray one of its connections to rhetorical theory and practice. For “animals, human beings included, tend to look at what they are about to act upon.”148 Hearkening back to the ham sandwich scenario above, while it was possible that Mary was merely ‘zoning out,’ or that she was looking down to think about something when I thought she wanted my ham sandwich, it is highly unlikely that she would stare at my ham sandwich when what she really wanted was for me to pass the salt from the other side of the table. Our eyes are extremely good indicators of our desires.

Empirical evidence bears out this conclusion. Especially when people are unclear about the intentions of others, the first place we tend to look is to their eyes. Simon Baron-Cohen describes one test of eye detection in children, called the Four Sweets Display.149 In this test, children are shown images depicting a sketch representing a person’s face in the center of the page (a basic eyes, nose, mouth depiction like one finds in various simple rhetorical images of the human face, such as Wal-Mart signs or Mr. Yuk stickers). Occupying the four corners of the page

148 Ibid., 46.
149 Ibid., 52-3.
same picture are four different types of candy treats. Researchers asked children to identify which candy bar the person in the picture wants. When the face is shown looking directly at one of the objects, children overwhelmingly pick that item of candy as representing the face’s goal. Only in cases of very young children, or children with autistic spectrum disorders was there consistently confusion about the motives of the ‘person’ in the picture.

EDD develops regularly at a very young age. By one year old, children are not only able to detect eye direction, but they also recognize that gaze is closely related to agency. Soon thereafter, they develop the ability to comprehend intentionality, learning that things can ‘stand for’ other things. Thus gestures and words are able to represent things in the world, an understanding of which demonstrates a child’s development of the next apparatus involved in joint attention – the Shared Attention Mechanism. In order to truly enact joint attention, we require three things: a shared focus, which builds from eye direction detection to the shared attention mechanism; a shared context, which shared attention establishes; and shared presuppositions, which are a constant negotiation among meaning-making individuals. While many primates show clear evidence of an eye direction detection mechanism, very few animals are argued to display a shared attention mechanism, and some of those claims are controversial even among the experts in the field.

II.2 Shared Attention Mechanism

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150 Bruner, “From joint attention to the meeting of minds,” 6.
It is important, considering how rare it likely is to have a shared attention mechanism, to establish what makes SAM so important to social species in general and to human theory of mind in particular. At its most basic level, a shared attention mechanism’s function is to verify joint attention. “Are we looking at the same thing?” seems to be the primary purpose of this ability. In many ways, this rudimentary view of SAM can be said to form the basis of all social relationships. By monitoring the attention of others on third parties or objects, we are able to begin thinking about a social world populated by other beings who feel, think, and believe. But SAM represents both an index of others’ desires (in the form of the Intentionality Detector, “ID,” which combines with EDD to make up SAM) and a form of communication. However, this claim bears some explanation; an illustrative scenario should suffice.

Imagine you are at a reception at a conference and a colleague who has made full use of the cash bar walks up to you and asks you if you ever confronted that ‘so-and-so’ senior scholar who had written a harsh review of your first monograph. Fate being what it is, it just so happens that the senior scholar in question is the person you were just talking to before your colleague interrupted, and that this person had come over to say how wonderful your second book was, and to ask if you would wish to collaborate on a future project. When you turn to face your colleague, you furrow your brow and turn your eyes in the direction of the senior scholar (making sure he or she cannot see this expression), while protesting “I don’t know what you mean; you must be thinking of someone else!” Your colleague hopefully takes your meaning, picking up on the visual clues you provided (i.e. your ‘pointed look’), signifying “This is the senior scholar you’re talking about. Please go away!”
To make this scenario possible takes a sophisticated social awareness on the part of both signaler and receiver, an awareness hopefully not too severely dulled by multiple visits to said cash bar. However, it is not difficult to understand how this complicated form of joint attention might have developed – a form wherein the overt linguistic meaning of a rhetorical act is trumped by the private body language meant only for a portion of the rhetor’s audience who are meant to be ‘in the know.’ To treat silent communication techniques alone, setting aside the even more complex idea of a communicational hierarchy, it is easy to imagine how these could be useful to humans and other animals in the wild. Non-verbal organizational techniques are, by nature, soundless, and therefore present a significant advantage during activities that require a measure of stealth. Hunting is an obvious example, and one that presents an opportunity to consider a particularly rhetorically significant adaptation among human beings. The adaptation in question is the extreme contrast between the sclera, or white of the eyes, and the colored iris and pupil it surrounds. The purpose of this contrast is in part communicative. This makes sense in terms of the evolution of communication, since any cooperative mechanism should be highly visible, or detectable by some other sensory input, while mechanisms aiding competition would be best off kept as secret as possible. In terms of the whites of our eyes, the human sclera is notable because it is a function of our gregarious nature. If we were not a social species, undoubtedly there would be no purpose to such an aid in eye direction detection, except to give our intentions away to members of other species who are able to monitor gaze. This would represent a horrible disadvantage, in survival terms.

All this is not to say that, once we become aware of this communicative adaptation, we are unable to use an initially cooperative mechanism for the purpose of deception. As Alan Boyd, On the origin of stories: evolution, cognition, and fiction: 37.
Richardson tells us, the human body serves double duty, figuring “as both the best and the worst source of information about the mind.” While the sclera may have developed for communal advantage, such as the silent communication one hunter could achieve by signaling a fellow hunter with a single shift of the eyes that “the boar is in those bushes over there,” it is easily exploitable. For instance it does not take children long to stop falling for the common “your mom is calling” ruse, once they have missed out on several rewards they otherwise would have received if they had not gone running home to see what their mothers wanted. In a similar way, most primates studied have been found to use intentional gaze shifting to direct attention away from their true goals. If I see you are watching me pick blackberries from a bush that has been nearly exhausted and I spot one last ripe berry equidistant from our positions, it would be to my benefit to stare in another direction while sidling over to the true location of the berry, thus not giving away my goal before I have made sure I would reach the reward first.

This type of non-verbal communication, made possible by our ability to share attention, is not limited to the eyes. Psychologists have located, and computer scientists have later been able to model the recognition of, at least six universal facial expressions shared by every known human culture. These are happiness, sadness, surprise, fear, disgust, and anger. More, and subtler, expressions may be universal, as well, but they are understandably difficult to isolate – likely culture and language work to enhance or obscure our ability to identify some shared meanings beyond some basic common emotions. Nonetheless, the existence of these common facial expressions implies an evolved response shared by all regularly-developing individuals,

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152 Alan Richardson, "Facial expression theory from romanticism to the present," in *Introduction to cognitive cultural studies*, ed. Lisa Zunshine (Baltimore: Johns Hopkins University Press, 2010), locs. 2133-5.
and even some that developed under special circumstances. “Indeed, this nonverbal form of social communication is too important to be left entirely to acquisition by learning” says Alan Richardson, “and those blind from birth manifest (though imperfectly) the basic set of facial expressions… without ever having seen them.”\textsuperscript{154} Likewise, babies almost immediately after birth begin searching for facial expressions in the adults who hold them. By one year of age, the triadic relationships SAM allows us are apparent to children.\textsuperscript{155}

Once children understand the nature of triadic relationships, they also begin to exploit them to learn about their environments and to communicate. As Debra Hawhee reminds us, Richard Paget (who Hawhee treats as the mediator between the theories of Charles Darwin and Kenneth Burke) suggests that spoken language originated as bodily gesture.\textsuperscript{156} “The body both models and performs the physical movements” that precede speech, she tells us.\textsuperscript{157} This is something Darwin was aware of in the middle of the 19\textsuperscript{th} century, as well. In the 21\textsuperscript{st} century, neuroscientists have even discovered the mechanism Darwin describes when he notes that we are so in tune with one another as social creatures, that the mere sight of another person using a scissors will cause us to clench and unclench our jaws; our minds have evolved a system of ‘mirror neurons’ that actually fire whether we are performing a specific action, such as grasping a pen, or we are merely watching someone else do it.\textsuperscript{158}

\textsuperscript{154} Richardson, "Facial expression theory from romanticism to the present," 65-6.
\textsuperscript{157} Ibid., 333-5.
It is the opinion of most cognitive psychologists studying these phenomena that SAM is one of the necessary scaffolds for the development of language. Just as Kenneth Burke’s views were influenced by gesture-speech theory, the influential early ethologist Niko Tinbergen suggests that animal signals could have originated as ritualized intention movements. For example, shaking one’s fist at someone is a mime of the actual process of punching them. Moreover, many contemporary psychologists are now studying the links between bodily movement and speech. George Butterworth suggests that the acquisition of language is directly dependent upon the use of manual pointing in children twelve months and older. He explains that:

The production of manual pointing operates in an interpersonal context from its inception. It comprises a specialized posture of the index finger, vocalization, social referencing, and attentional processes involved in object identification. It does not develop out of prehension but makes use of the specialized evolutionary adaptations of the hand for referential communication.

This implies that language develops in reference to the external world, not to internal thought alone. Kenneth Burke makes a similar observation when he suggests that gestures decrease as we use more abstract language. Moreover, both of these sources match well the current thinking of many biolinguists. Famously, Lakoff and Johnson suggest that language and

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161 Ibid., 38.
thought develop first referentially (pointing out or describing some real-world object), and later are extended outward into more complex abstractions. However, in order to form these abstract thoughts, we must compose them in terms of metaphors to actual physical processes.\textsuperscript{163} The more abstract a concept, the less concrete the metaphor. Burke responds favorably to the idea of constructing metaphors to understand more complicated, or less concrete, ideas: “If we didn’t use language necessarily by analogic means,” he notes in a published interview, “we could never learn.”\textsuperscript{164}

Much of the modern history of rhetoric, whether we care to acknowledge it or not, in fact, stems from Burke’s idea (which we discussed in Chapter II) that humans are “Bodies That Learn Language.”\textsuperscript{165} That the origins of our persuasive abilities are explicable through evolutionary cognitive psychology is shocking to some, but many advances in the study of biology have also advanced the study of culture in new and surprising ways. Because of what linguists call iterated learning, humans are able to learn language purely through the observation of others.\textsuperscript{166} The complexity of developmental rules that must be in place to allow the mental flexibility to learn language ‘on the fly,’ as humans do, is astounding. No wonder, then, that scaffolding mechanisms, such as SAM, are only grudgingly attributed to other species. For, without the theories of mind SAM supports, people would not bother to communicate with one another. What would be the point? Irony, sarcasm, wit – basic intellectual activities we share with one another would be impossible if we were unable to attribute beliefs to other minds.\textsuperscript{167}

\textsuperscript{163} Lakoff and Johnson, \textit{Metaphors we live by}: 6.
\textsuperscript{164} Brock et al., "Dramatism as Ontology or Epistemology: A Symposium," 23.
\textsuperscript{165} Ibid., 31.
\textsuperscript{166} Kirby, "The evolution of language," 677.
\textsuperscript{167} Baron-Cohen, \textit{Mindblindness : an essay on autism and theory of mind}: 132.
Lest we underestimate the fundamental importance of shared attention to human life, communication, and persuasion, I want to say one last word. Evolutionary literary critic (or evocritic) Brian Boyd reminds us that sharing attention is one of the most basic human social needs. That this is so is borne out in one of the ways in which we punish each other for misbehavior – we withdraw attention.\textsuperscript{168} If crimes are severe enough, almost every prison in the world is equipped with a solitary confinement cell, which represents the cold calculation of a system designed to enact harsh examples of negative reinforcement to curb unwanted behavior. Withdrawn attention is potentially psychologically damaging to members of social species. So much so that astronauts in training, who may one day find themselves isolated for days in the case of emergency systems failures when operating in space, are subjected to thorough tests that measure their ability to withstand long-term isolation in cramped chambers. That these astronauts willingly subject themselves to isolation and the withdrawal of attention is a testament to their commitment to go to space, one that we should keep in mind when we reflect upon the necessity of shared attention for maintaining a healthy psyche.

\textit{II.3 Theory of Mind}

We know that a few intelligent animals have shared attention mechanisms. Close observations of bonobos (pygmy chimpanzees), for instance, has yielded some interesting insight. Simon Baron-Cohen describes a sort of ‘blind man’s bluff’ game that bonobos play by covering their eyes and walking out on a tree limb or ledge. This game demonstrates that bonobos understand the concept of perception, and that they reflect on perception by playing

with their abilities to perceive. I would also argue that part of the appeal of this game, for the bonobos and human observers alike, is in the tension the performer creates among his or her audience. This, to me, also betrays a theory of mind – the ability to attribute thoughts, beliefs, or mental dispositions to other creatures. However, my willingness to assign a ToM to bonobos is based on the somewhat loose definition I provide; others, including Baron-Cohen, are more conservative in their assessment. Even if one believes in the existence of ToM among intelligent animals, almost all agree that it is quite rare.

To practice mindreading, or mentalizing, as a theory of mind allows us to do, is one of the most important cognitive developments human beings have achieved. It is also an automatic process, as Lisa Zunshine tells us: “attributing states of mind [to others] is the default way by which we construct and navigate our social environment.” We do not notice most of the time when we are mindreading, because it is such a fundamental process for navigating our social environments. The alternative to constructing a world populated by other thinking, feeling creatures is almost unimaginable to most people – it would be living in a lifeless world of objects, where other creatures are merely tools to be used and thrown away as needed. No fully-socialized creature could lead a healthy life (physical or psychological) under this presumption, which is one reason theory of mind is such an important subject of study.

Research into ToM began in earnest following the results of a 1983 study of false belief performed by Heinz Wimmer and Josef Perner. What the study exposed is that by the age of

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170 Loc. cit.
four, most children are able to attribute false beliefs to others by mindreading a situation from another person’s point of view. The experiment involved two dolls – one named Sally and one named Anne. Children were shown that Sally has a basket, while Anne has a box. Sally puts a marble in her basket and secures its lid for safekeeping before going out to play. ‘Naughty’ Anne takes Sally’s marble out of her basket while Sally is not looking, and puts the marble in the box. The children being tested are then asked the question, “When Sally comes in from play, where will she look for the marble?” A normally developing four year old child will understand that Sally would not have seen Anne hide the marble in the box, and so they would attribute to her the false belief that the marble was in the last place Sally put it, i.e. the basket. Children around the age of three years old or younger, as well as autistic children of more advanced age, would have answered based on their own knowledge that the marble had been transferred to the box. This indicates a deficit in a child’s theory of mind, since they were unable to recognize that it is not their own knowledge that matters in this scenario, but the (false) knowledge of Sally, who had been deceived by Anne.

This test, now known as the Sally-Anne test, has been replicated many times, consistently showing the same results. Normally developing children around age three assume that “mental states [are] direct conduits to reality.”¹⁷³ That is, if the child deems something is ‘true,’ then that is what everyone else should think about ontological states – the marble is in the box. It is not until later that children develop the ability to understand that other people can harbor false beliefs.

Tests like these are startling because they expose a complicated mechanism for social awareness that we would not even imagine existed until we see the results. As John Tooby and Leda Cosmides note, our “evolved inference engines operate so automatically, we remain unaware of them and their ceaseless, silent, invisible operations.” Yet, for a child to develop as a fully functioning, socially adept individual, this is a great hurdle, one which children with autistic spectrum disorders do not make it over, or make it over much later, or only in part. The field of evolutionary psychology has achieved some amazing successes in its short life, not least of which comes from the work of Simon Baron-Cohen on autism. In his 1985 article with Alan Leslie and Uta Frith, he introduced the concept of theory of mind to explain the abilities of normally-developing children to attribute thoughts and beliefs to others, a skill he found autistic children either lacked altogether or acquired later in their development. This way of approaching the developmental differences between children with and without autistic spectrum disorders paved the way to innovating a new method for detecting autism in children, “far earlier than anyone believed possible.” If not for Baron-Cohen’s work with autistic children, little would be known about our ability to read minds; yet it is an unfortunate truth that much of our knowledge of how the healthy brain operates derives from our work with unhealthy brains.

The theory of mind mechanism operates through mindreading, mentalizing, or by means of what Arthur Frank calls “interpretation.” We interpret the thoughts and feelings of others

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177 Tooby and Cosmides, "Foreword," xviii.
by means of their body language, the context of their communication, and any subtext we can divine. Put simply, to practice mindreading is to determine what I think you are thinking and feeling. It is easy enough to understand that we attribute thought and emotion to animate beings – if I see Gustaf scowl, I imagine he is angry, or perhaps concentrating very hard. This ability to attribute mental states to others eases the processes of social development in children, helps them form a broad range of interests, and (of particular interest to rhetoricians) hastens the development of communication skills. Those who have difficulty attributing thoughts and beliefs to other minds are said to have ‘mindblindness,’ which can severely impair these developmental processes.180

Among the more intelligent species of animals, we may glimpse rudimentary theories of mind. Animal deception is a likely candidate for explanation by these means. The strategic use of signals to persuade in general suggests that the signaler has ascribed to the receiver beliefs that need to be altered.181 Many life scientists are wary of ascribing ToM to animals, or at least caution against doing so too hastily. However, it is important to note that many experiments on primates suggest that the best of our genetic cousins form theories of mind at levels equivalent to human children of up to 3-4 years of age.182 This is the all-important transitional period in normally-developing children that separated success and failure with the Sally-Anne test for false belief. Further study is required, but we may once again be surprised at the cognitive abilities of other animal species.

181 Maynard Smith and Harper, Animal signals: 120.
182 Ibid., 121.
III. Theory of Mind’s Relevance to Rhetoric

Regardless of the species in question, it is easy to understand the adaptive benefit of ToM. The problem this mechanism addresses is one close to the hearts of rhetoricians – gauging and predicting the thoughts and behaviors of other organisms. That is, ‘reading a room.’ We know we adopt what Daniel Dennett calls the intentional stance toward communication. That is, we attempt to uncover what it is a speaker intends to communicate to us. This is apparent because communication between individuals is often successful, despite our lack of complete harmony of worldview or context. Wittgenstein famously asserts that if a lion were able to speak, we would not understand him; the reason for this is our lack of shared context. While this is partially true – communication requires some shared assumptions, whether they are cultural, ontological, or metaphysical – our basic modes of life as predatory mammals making a living in a shared natural environment should make at least a rudimentary form of communication possible. And, for anyone who has ever had to mime a brief conversation in a foreign country, it seems fairly obvious that basic intentions are easy enough to grasp, even without a shared language or culture.

Yet it is true that words can seem utterly meaningless without some insight into the speaker’s intent. Our ToM enables us, to the ‘good enough’ degree so often endorsed by evolutionary processes, to form the proper assumptions about a speaker’s state of mind in order

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to properly understand him or her. This ‘good enough’ system helps us get by, for the most part, but it can sometimes lead to confusion about intent, based on a lack of shared context. A particularly striking example comes from one of my favorite movies as a young man (and this may reveal more about my personality than is salutary), *Pee-wee’s Big Adventure*. In this movie, Pee-wee Herman has his custom-made bicycle stolen by a jealous neighbor, because he will not sell it at any price. The thief quickly ditches the goods in an attempt to avoid being caught, and Pee-wee is forced to go on a cross-country trip to recover his beloved bike. In an attempt to divine the bicycle’s location, Pee-wee visits a psychic who tells him he will find the bike in the basement of the Alamo, in San Antonio, Texas.

When Pee-wee arrives in Texas, however, he accidentally gets himself entered in a bull-riding competition and gets knocked unconscious. Some cowboys attempt to revive Pee-wee, at which point a crowd begins to gather. When he starts to come around the cowboys try to establish that he has not damaged his brain in the accident. The first cowboy asks Pee-wee what his name is, to which he replies, “I can’t remember.” The second cowboy then inquires as to where Pee-wee is from. Again, he responds, “I can’t remember.” When the first cowboy, now discouraged, asks Pee-wee if he can remember anything at all, Pee-wee concentrates very hard until finally he conjures his most important memory—the location of his prized possession, his stolen bicycle. Pee-wee proudly exclaims, “I remember… the Alamo!” At this, all of the gathered Texans stand up and cheer.

Under normal circumstances (that is, not having just been thrown off a bull), a speaker would be able to use ToM to monitor the informational needs of an audience, and could intuit

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186 A caveat: I do not mean evolution literally endorses any policy, behavior, or thought process. It is not an active agent, nor is it thoughtful and prone to make value judgments.
possible issues of context. While Pee-wee remembered the Alamo as the place where he hoped to find his lost bike, the gathered Texans held pride in the courage of their Texian heroes who gave their lives attempting to hold the Alamo mission against the invading forces of Mexico, under General Santa Anna.

Communication can often depend on context in this way. For instance, it is easy to discern the intent of a communicator who, at a local dance hall, walks up to another person and asks, “Shall we?”187 In another context, this utterance might be inexplicable, or even offensive. This is why we constantly monitor body language during oral performances, to gauge the success or failure of our utterances. We can minimize issues of shared-context by making sure our statements are clear, and that our audience is receptive to the rhetoric we employ. However, successful rhetors need to succeed on two levels – the predispositions of human nature and the “fine-tunings of local culture” – when attempting to gain and maintain audience attention, in order to persuade.188 Much of our ability to monitor success is based on ToM and the related ability to empathize, which normally develops in children by the age of four. A healthy theory of mind is necessary for one to construct an audience with beliefs that may differ from one’s own, just as the ability to sense the emotional states of others is necessary to ‘read’ the cues audience members project. A further discussion of this process will follow, as the construction of audience deserves its own discussion in this chapter.

Early attempts at building an audience and manipulating its attention relate back to our discussion of gesture-speech above. Gesture-speech in many ways represents a child’s first forays into the world of epideictic rhetoric. The urge to point and speak is an effort to build

188 Sugiyama, "On the origins of narrative," 411.
community around the reference to external objects. It is far more rare for children to gesture and utter the name of an object if there is no one around; rather, pointing and naming is a transaction of sorts, wherein the child offers up a view of what is real, in order for a more experienced navigator of reality to approve or disapprove of the interpretation. Granted, early community building is often restricted to child and parents, but we must take baby steps before we can learn to walk with confidence.

Other animals perform similar actions, meant to build or reinforce communal ties. Ethologists call these behaviors mutual displays. The point of these displays is not necessarily to share information, but to induce desirable shared emotional states. I have mentioned in previous chapters both the pre-hunt ceremonies of African wild dogs and jackals, as well as the strange occurrence of a congress of crows, which seems to be a purely social activity, meant to bolster communal sentiment. The idea that humans and other animals communicate in this way, to manipulate feelings as such, accords with one of Burke’s many helpful (re)definitions of rhetoric, when he reminds us that “often we could with more accuracy speak of persuasion ‘to attitude,’ rather than persuasion to out-and-out action.” Just as the toddler points to objects to praise or blame them (often in the form of “yay” objects and “uh-oh” objects), adults of many species will communicate not merely to share information, but to build a community of individuals who agree on certain assumptions.

Such attempts to build community are utterly dependent on our ability to attribute beliefs to others, since epideictic rhetors are attempting to construct a pattern of shared beliefs and assumptions with others. In the remaining portion of this chapter, the connection between

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190 Burke, *A rhetoric of motives*: 50.
rhetoric and theory of mind will be strengthened by examining a fundamental relationship which is prerequisite to our ability to persuade. First, if we want to persuade others, we must gather together what we know about the targets of our rhetoric and form a composite view of ‘audience.’ Second, in order to construct an audience, let alone monitor its informational needs, we must exploit our ability to read minds, interpret, or mentalize. In other words, if we had no theory of mind, we would see no reason to persuade others to adopt new feelings or beliefs. Like the hypothetical being discussed above, who saw only a world of objects, there would be no need to alter beliefs or, as Burke says, to “speak of persuasion ‘to attitude.’” We would not even dream other beings had attitudes in need of persuading.

**IV. ToM and the Rhetorical Construction of Audience**

If we want to persuade in terms of attitude, then, we must first attribute attitude to our receivers. In most cases, especially when multiple listeners are involved, this requires the construction of an organic entity we commonly name ‘audience.’ It is my contention that audience is a “fictional mind” in that we interpret it in similar ways to characters in novels – we infer the audience mind based on experience which is grounded in reality, but counterfactual in nature. This idea is consonant with a growing body of evidence compiled by evolutionary literary critics. In discussing the rhetoric of creative writing, Alan Palmer goes so far as to say “narrative fiction is, in essence, the presentation of fictional mental functioning.” That is, an author invents the mental characteristics of characters in order to present interesting new minds

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191 Loc. cit.
to read. In interpreting and responding to fictional audiences as rhetors, we take theory of mind to one further level of abstraction – inferences about the contents of another (social) mind are used to invent persuasive content that we will deliver in a form suitable to our opinions of what those minds want to hear. In other words, when addressing an audience, we think we know what they need to know in order to think what we want them to think. While this seems a mouthful when printed on the page, it feels so simple when we do it in our daily conversations without giving it much thought.

It is important to examine rhetorical theory and practice from multiple levels, especially those points where we do not realize we are practicing rhetoric, where it seems automatic. These joints, at which I have attempted to carve rhetoric before reassembling it again with a better understanding of how it operates, are often the places where biology hides. The universal, the automatic, the unnoticed by previous rhetoricians (or noticed but mistakenly attributed to culture) – these nexuses represent the greatest opportunities for biocultural inquiry. In previous chapters, I have treated rhetoric at the level of the organism (the individual rhetor), the environment (the rhetorical situation), and the species (human and non-human animal signaling), but now I think it is important to treat the fuzzy lines that intersect actual receivers and the mental constructs we imagine our audiences represent. This, to my knowledge, is a new way of looking at rhetorical practice, so it will be good to recall some more established audience-centered theories of rhetoric for comparison’s sake.

Audience-centered rhetoric is not a new concept, to be sure, but our understanding of how theory of mind enables and informs our construction of audience is. It will be helpful to mention in brief two modern revisitations of audience-centered theories of rhetoric – and to examine how they might interact with the concept of ToM – before moving on to survey two
lines of inquiry evolutionary psychologists have taken to help explain how we create, and negotiate our interactions with, audience. This will take us beyond the clinical study of the brain into ethological discussions of animal behavior based on observation. If the reader is wary of such connections between brain and behavior, he or she need only remember that the human brain only got larger because of a nearly two million year long string of successes accumulated by those individuals whose brains ‘invented’ ever more successful modes of behavior within their particular socio-cultural milieu. That is, we exist because our ancestors behaved in such a way as to make them the proverbial ‘fittest’ who survived and bred.

IV.1 Audience-Centered Rhetorical Theory

One of the most influential, and in some circles notorious, expressions of an audience-centered theory of rhetoric comes from Chaïm Perelman and Lucie Olbrechts-Tyteca in *The New Rhetoric*. Much like Krebs and Dawkins, Perelman and Tyteca claim rhetorical activity is foundationally an act of manipulating others to make them believe whatever theses the speaker puts forth (Cf. discussion of Krebs and Dawkins in chapter II).\(^{194}\) This type of rhetoric presupposes a theory of mind, in that it adopts a telos of influencing the beliefs of others. Not only does it require a speaker to understand that other people have beliefs, but also that they may subsequently be altered by means of persuasion. James Crosswhite asserts that this shifts some of the power of rhetoric from speaker to receiver; “there is no measure of an argument,” he says,

“no way of evaluating it, independent of some concept of an audience.” But does this audience exist, or is it (as I claim) merely a construction of the speaker’s mind?

Perelman seems to think audience must be constructed, but that this is an intentional, thoughtful act, whereas my argument relies on this action being automatic on some occasions, especially those involving informal speech and non-ritualized activities. Crosswhite supports this reading. To Perelman an audience is intentionally constructed – it cannot be just anyone who walks by during an oration or who stumbles upon a piece of writing. The rhetor defines the audience through a constructive process. This clarification is very useful, in that it addresses the important concern regarding unintentional rhetoric. In this instance, Perelman can be read as arguing that rhetoric must be intentional, and that eavesdroppers (unless they are the intended audience, according to the wishes of the speaker) should not be the focus of our inquiry – it should be the audience constructed by the speaker.

This conclusion makes sense. Rhetors may attempt to transcend the particular, to make an argument universal, but the idea of a universal audience is fraught with challenges, not least of which are linguistic and cultural differences. This is one point on which critics of the New Rhetoric took issue. Henry W. Johnstone, for instance, makes it clear that audiences must be treated particularly, no matter the speaker’s intentions. Most notably in oral communication, Johnstone asserts that the audience is a “social organism within which complex interactions can take place” and interact with the rhetor. Any audience-centered rhetoric, he continues, must deal with audience as it would a living organism. This is an important comment from a

196 Loc cit.
rhetorician, as it lends credence to what some may consider an overly-ethological approach to the subject of audience construction. That we are (metaphorically) giving life to a new organism every time we create an audience requires us to study our creations in naturalistic ways. However, the sticking point between Perelman and Johnstone lies in the existence of outside observers, eavesdroppers, or unintended audiences. While I read Perelman as saying these overhearers do not count as audience members, as the speaker did not include them in his or her conception of audience, Johnstone seems to treat them as the extremities of the body audience; they waggle about out on the fringes of the corpus, but they are nonetheless a part of the whole.

While this is an important distinction to note, we are left with the fundamentally unsolvable problem we discussed in Chapter III, regarding whether it is the author’s intent that defines the audience, or if rhetoric can be unintentionally created in any given situation. For sake of consistency, and because he seems to make the most convincing argument on this matter, I will side here with Perelman, who puts it succinctly: “every speaker thinks, more or less consciously, of those he is seeking to persuade; these people form the audience to whom his speech is addressed.”198 Much of this is hardwired – all normal human beings develop near-effortless ability to read facial expressions and what we call ‘body language.’ Charles Bell called our interpretation of these visual cues a hard-wired “natural language.”199 Just as we are said to ‘read an audience,’ once we have constructed one, we constantly check attention to monitor the success of our utterances.

199 Charles Bell, The anatomy and philosophy of expression : as connected with the fine arts, 7th ed. (London: George Bell and Sons York Street Covent Garden, 1877), 113.
Darwin suggested the universal nature of reading facial expressions as indicative of the inner mental states of others developed out of the continued use of gestures that betray emotions: “If indeed they are serviceable to man or to any other animal, in aid of inarticulate cries or language, they will likewise be voluntarily employed, and the habit will thus be strengthened.”

This sounds awfully Lamarckian as Darwin worded his explanation, but the idea could be better explained in reverse order: that the reading of minds through interpretation of physical gesture has proved beneficial shows that there must be a correlation between internal mental state and external physical state more often than not, else it would not provide an advantage to intuit as such. While I mean only to use this observation as a bridge from the brief comments on the New Rhetoric back to the earlier discussion of gesture-speech, the study of Perelman’s conception of a universal audience and how it relates to Darwin’s work on primates would make for a fascinating study. Unfortunately, length restricts such a discussion happening here.

The second modern trend toward an audience-centered rhetoric that I would like to mention in brief is more of a revisiting of a classical rhetorical concept – that of kairos. Lloyd Bitzer gave this term new life in his (aforementioned) article on the Rhetorical Situation. Here kairos happen all of the time, and rhetors need only identify and initiate interaction with a rhetorical situation. Carolyn Miller (based in part on her reading of Vatz’s response to Bitzer) expanded his treatment, which she surmised was originally more analogous to chronos than kairos, by adding a mental element signifying an ‘opening’ in which a speaker can create a rhetorical situation (“spatial” was her term, but this is misleading, as it is a physical metaphor)

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201 Bitzer, "The Rhetorical Situation."
only – i.e. a ‘gateway of opportunity’ which does not refer to any actual gate). Miller argues that kairos is a useful term in the rhetoric of science, because it emphasizes change, or at least differences found due to the passing of time.

Kairos is also important because of its concern not only with time and change, but also with audience attitude within a temporal frame. It is not enough to talk of time as a sterile concept – we must populate time to make it worth human consideration. Time is, after all, a concept humans stress more heavily than other species. While many animals can plan ahead and some have exceptional memories, like the scrub jay who can recall hundreds of food stores months after provisioning them, to our knowledge no other animal is aware of the concept of time in its specific uses. The seconds, minutes, and hours we obsess over in our daily lives are meaningless to most animals. This is an important concern when thinking about kairos in a cross-species context. Can an orangutan identify a rhetorical situation ahead of time? As it turns out, the answer is yes. Although they need no concept of time, many animals are able to keep complicated tallies in their minds of intricate social networks of patronage and clientage. Favors are done for conspecifics, and those who do not eventually pay them back are often punished by the group.

Humans, as well, are efficient punishers of social difference. To provide a vivid example, a history professor I once had would comb through every paper his undergraduates turned in, searching for clues of plagiarism. This was an especially grievous offense to him. Any time he

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204 Ibid., 311.
was able to find evidence to confirm his suspicions about a possible plagiarist, he would bolt out of his office, essay raised high above his head, and he would take a victory lap around the entire floor, gleefully exclaiming to anyone who dared to make eye contact with this apparently crazy person “I found a cheater!” Although most people do not run victory laps, we take much delight in catching cheaters. It is one way we have evolved to be able to maintain order as a social species (i.e. cheater detection enables cooperation), and some form of cheater detection and confrontation system exists in every known culture. For the orangutan, cheating does not take as many forms, and so the rhetorical situations involving this particular survival strategy are limited mostly to what biologists call (tongue-in-cheek) the three F’s: feeding, fighting, and having sex. For humans, the rhetorical situation is inextricable from both time and audience, as these concerns are interrelated for us. What we might take away from this is a concern for the right words at the right moment, and to the right audience. This is a very simple, but representative summary of many people’s views on the concept of kairos, and how it relates to an audience-centered rhetoric.

IV.2 Audience-Centered Theories of Evolved Communication

Just as there are many ways rhetorical theorists have envisioned concerns about audience, evolutionary cognitive psychologists have hit on multiple insights that have spawned different approaches to explaining modes of persuasion. These originate from various sources, but all such theories must have as their bases a healthy ToM. Rhetoricians should take note, as much of this evidence bears directly on our subject matter. In fact, the psychology of audience construction lies at the very heart of rhetorical theory, and any potential professional speaker should be versed
in the empirical and behavioral studies that bear on persuasive success. Two modes of inquiry stand out as especially pertinent to Adaptive Rhetoric. The first is Receiver Psychology, which owes much of its foundational work to the study of animal signals. The second is audience design theory, which is a theory more widespread in linguistics circles. I will describe each in turn, before speculating about how these theories could benefit the study of rhetoric.

Receiver psychology studied in animal signaling theory has found that many displays and communicative behaviors are striking so that they might be better recognized and remembered by the perceiver. A notable example from human communication is the universal ‘motherese’ parents around the world adopt for the benefit of their babies, which is characterized by the use of high-pitched, singsong speech.\textsuperscript{205} Speaking in this manner draws attention to the language offered up to the baby, so it might learn to communicate as its parents do.

Observations about the striking nature of some animal signals led to the idea that communication is not merely a matter of sharing information in as honest a way as possible. Rather, there are two main criteria that must be considered in evaluating the quality of a signal: its strategic design and its efficacy.\textsuperscript{206} Strategic design relates to the information needing to be transmitted in order to make a receiver react in the desired way. Efficacy concerns how a particular signal is designed so that it can get said strategic information across to the receiver. We can consider this analogous to a product (the former) and its packaging (the latter). Efficacy is heavily dependent on the sensory systems and brains of receivers, which constrain the

\textsuperscript{205} Cronk, "The application of animal signaling theory to human phenomena: some thoughts and clarifications," 607.

available means of persuasion to which the signaler has recourse. Depending upon the alignment of interests between signalers and receivers, signaling systems can either co-evolve (if interests are aligned) or they can enter an evolutionary arms race (if the interests of signalers and receivers clash).

Co-evolving signals and receivers can potentially reach a state of equilibrium, wherein signals remain stable. Regardless, all signals are subjected to powerful selection forces that act on their design. For a signal to be effective, it must be easy to detect, easy to discriminate (from background noise, or other signals), and it must be easy to remember or learn. These forces, especially detection, can help explain why signals that attempt to reach the same goal can vary so widely among species (and even individuals). Bright coloration in birds and fishes are a most potent example of signals evolving based on the selective force of detection, while the warning colors of certain toxic moths can easily illustrate the urgency of discrimination and memory. If naïve predators take too long to learn that a toxic species is not healthy to eat, the warning coloration could easily backfire and lead to the early extinction of the brightly colored signaling species. Thus, we see that new signals in this case carry the danger of putting the signalers at a huge disadvantage until predators learn to recognize and remember the signal (which, of course, will take the untimely deaths of many individuals displaying the new warning signals).

Receiver psychology can also manifest itself in mindreading behaviors. In some cases the ability to detect intention by means of monitoring eye direction can be particularly important to a

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208 Guilford and Dawkins, "Receiver psychology and the evolution of animal signals," 1-3.
predator or a conspecific who has learned to read the involuntary ‘body language’ of its fellows.\textsuperscript{210} Especially important are involuntary signals of surprise or delight at having located a food source. As described in the example above, some primates are well aware of their fellows’ abilities to detect eye direction, and mask their normally involuntary expressions, including looking away from the new food source once espied. Humans are among this group, having in some cases developed the ability to mask emotion into an art. Professional gamblers have been known to train rigorously to mask their emotions, involuntary actions, and nervous ticks, in order to maintain a ‘poker face’ so that they do not give away their excitement at being dealt a good hand.

The opposing side of this is true, as well: many signals evolve in order to attract attention to the physical or mental states of the signaler.\textsuperscript{211} An obvious example is the ostentatious display of the peacock, whose bright fan-shaped tail signals his size and suitability for mating. The more conspicuous the display, the easier it is for receivers to learn what the signal is attempting to persuade them to think or act. What is salient to receiver psychology (again, the ability to detect, discriminate, and remember) is what makes a signal more effective to its audience.

An understanding of efficacy in relation to varying audience demands is prerequisite to understanding the other communication theory I want to outline – audience design theory. Audience design theory is a product not of animal signaling research, but of sociolinguistics, and therefore has a broader focus. One way this is so lies in audience design’s concern, more often than not, with multiple-receiver rhetoric whose auditors are of multiple types. For a social species, such as humans, it is very often the case that conversations involve three or more people.

\textsuperscript{210} Guilford and Dawkins, "Receiver psychology and the evolution of animal signals," 10.
\textsuperscript{211} Guilford and Dawkins, "Receiver psychology and the design of animal signals," 435.
Moreover, this theory holds that people may not just design their speech for their addressees alone, but also take into consideration the other participants in the conversation.

Imagine a scenario wherein I am at the student union with my friend Susan, and another friend of mine, Brad, whom Susan does not know, approaches us. If I tell Brad he had a great game yesterday, my friend Susan, since she just met Brad, would need me to add some additional information for her to understand the context of the conversation. Something as simple as adding “Brad plays intramural hockey at school,” would serve. As a participant in this now three-way conversation, Susan will not necessarily have all of the information the current addressee (Brad) now has. Therefore, if I want Susan to continue to be able to participate in the conversation, I will need to closely monitor her informational needs, adding context where it is not already shared.

Beyond the addressee (Brad) and the participant (Susan), there might also be an overhearer nearby, who will affect my speech. If Dwayne is standing nearby, and I know he just lost fifty dollars betting on the game, I might try to eliminate his ability to overhear, by speaking more softly. Or, if Dwayne’s brother Frank was playing in the game and was badly injured, it would behoove me to temper my enthusiasm when telling Brad he played a great game. The only time I would not alter my speech based on my audience is if I was not aware of their presence. Even so, we sometimes assume there could be an eavesdropper as a strategy to not get found out when we are saying something in a public place that we wish to remain private.
Audience design theory is most useful as a means to explain variations in the speech of a single person. While the speech acts of various people might differ for each type of audience, individuals demonstrate a greater variance based on audience than multiple speakers do addressing the same audience. Every person redesigns his or her speech for each new audience. Even nonpersonal variables that have received much study by linguists, such as setting or topic, tend to have less effect on average than the audience variables studied under audience design theory. In many cases, speakers will even redesign their communication entirely in order to exclude certain participants, auditors, or eavesdroppers, so that only their intended audience can understand what they are saying.

V. Implications for the Future Study of Rhetoric and Evolution

Of the two ways theory of mind research has expressed itself (however unwittingly) in signaling studies and linguistics, audience design theory should feel the least alien to an audience of rhetoricians. Put simply, “when speakers design their utterances, they assign different hearers to different roles.” These roles are based on the assumed beliefs and knowledge of the hearers. Speakers make these assumptions each time they redesign their speech, and they must redesign their speech every time they construct a new definition of audience. Audiences can be designed as present, absent, or conspicuously present or absent.

213 Ibid., 161.
215 Ibid., 342.
One example of a conspicuously absent audience is found in the work of Thomson on the mother-in-law languages of some Australian aborigines.216 Because a mother-in-law in this culture is restricted from addressing her son-in-law directly, she is forced to address some other person, animal, or object in order to communicate by proxy. In what is called a lateral indirect illocutionary act, the mother-in-law of Thomson’s example addressed the dog in conversation, since there were no other humans around to aid the communicative process. While the dog was technically the addressee in this situation, the content of the speech act was clearly meant for the son, who was merely an auditor (by the rules of this loophole in the taboo custom). Audience design can quickly become a complex task when the vagaries of specific historical and cultural practices influence the procedure. The mother-in-law’s true audience (the son-in-law) would be scandalized if she addressed him directly, and thus she must fashion a rhetorical alternative.

The speaker is always dependent on audience concerns. As Allan Bell reminds us, an earlier meaning of the term audience relates not just to the addressees, but to the event itself—that of ‘having an audience with’ someone who is willing to hear the one attempting to persuade them for a time. The signaler, in this earlier sense of audience, is subject to the audience, and is entirely dependent on the goodwill of the addressees. This idea demonstrates the important point that a rhetor must be “responsive to audience response,” or risk losing the audience entirely.217 Brian Boyd connects this reflexivity to his discussion of shared attention and the production of art. He suggests that art is an action that requires attention in order to monitor a reaction, so that the artist can perform a refinement of action.218 Similarly, we might construct a rhetorical model of the audience-centered art of persuasion based on SAM and ToM, wherein delivery reaches an

216 Ibid., 338.
217 Bell, "Language Style as Audience Design," 161.
audience who reacts and we either refine our rhetoric on the spot, in order to adjust to audience needs in the present, or we store this instance as an episodic memory of one instance of audience reaction (see Chapter VI) to help us construct semantic memories to aid in future invention.

Thus, the immediate recursive process might look something like this:

Delivery > Audience > Reaction > Refinement > Delivery

And long-term refinement could take a form similar to this:

Delivery > Audience > Reaction > Episodic Memory > Semantic Memory > Simulation/Invention > Delivery

In either case, audience reaction in the present drives future persuasive activity, even in the immediate future. Because we share attention as a social species, we must pay the costs to reap the benefits. Attention must be earned, and once it is earned it must be held. Holding attention can increase our status, which in turn can increase our attractiveness to the opposite sex or the respect we earn from members of the same sex. These things could help us pass down more of our genes to future generations, suggesting a possible adaptive benefit.

If rhetoric is adaptive (in that its use can confer fitness benefits to the user), and I argue that it is, then audience design theory as Bell defined it in 1984 is one way in which our theories of mind are utilized for the good of our genetic legacies. In many ways, receiver psychology is a very basic form of audience design, in that it makes some focused, but potentially truistic, statements about the physical necessities of rhetorical practice. Obviously if I created a PowerPoint slideshow, it would be meaningless to vampire bats, and for multiple reasons. For one, their eyesight is extremely poor. Also, they have not developed the ability to read English,
as many humans have. However, there are subtler insights we can glean from receiver psychology. For one, we can begin to interrogate the origins of stereotyped rhetorical behaviors found among all human cultures. One example is the human universal of specialized speech for special occasions. Whether it is a wedding, a funeral, or a sporting event, every known culture on our planet has been observed to alter its speech patterns and rhetorical style to fit whatever occasions that particular culture finds important.

Beyond analyzing ritualized behavior, thinking of rhetoric as a special form of animal signaling (as I argue we should in Chapter IV) allows us to view persuasion as an embodied process. Rhetoric is not disconnected from our bodies, but finds the basis of expression therein. Human gesture-speech, discussed above, represents an early developmental stage in communicating interpersonally. Pointing as a form of sharing attention is a purely human rhetorical move (other primates point, but only as a sign of desire: “I want that apple.”). The act of pointing and naming is among the first steps in being able to share context with another human, and is also an early expression of our theories of mind. We would not share attention with a rock or a hula hoop, since we attribute to them no beliefs or feelings.

Theory of mind is a necessary precursor for all of the audience-centered theories discussed in this chapter, making it an essential part of evolutionary cognitive psychology – a part every rhetorician should be aware of. For our whole enterprise is based on the ability to change minds, and we cannot change minds if we do not suspect there are beliefs in these minds worth changing (again, pointing us toward Burke’s persuasion to attitude). Many questions need to be answered about the expressions of ToM before we can tie rhetoric definitely to any one theory of audience design. For instance, how many of our physical limitations can be overcome
by technology, thus weakening receiver psychology’s hold on humanity’s particular forms of animal signaling? What is culture’s role in mitigating our biological constraints, or working around them? How can theories of sociolinguistic origins apply to intrapersonal rhetorics, or even inter-species rhetorics?

The benefits of answering these questions, however, should by now be clear. Gaining an understanding of how we develop our art of persuasion by studying its modes of development, as well as its analogues present in other species, gives us much-needed insight into the biology of rhetoric (in this case, what we can identify as shared behavior between related species). This type of knowledge has been largely ignored for decades, going out of favor shortly after Kenneth Burke had laid much of the necessary groundwork for a biocultural study of rhetoric. Meanwhile, ethologists, biolinguists, and evolutionary psychologists (to name a few disciplines largely excluded from discussions in rhetoric and composition circles) have been accumulating data that have direct bearing on the art of persuasion. Expanding the scope of interdisciplinary study to include this research will open up large swathes of new territory whose exploration will enhance the study of rhetoric.
Chapter VI: Evolutionary *Memoria*: Grounded Cognition and the Fourth Canon

I. Memory, Nature, and Culture

“Exposure to a single story told once will not transform a mind substantially, any more than a single play-fight will make an animal an accomplished fighter, but as with play, many repetitions, or many different stories, improve capacities for social cognition and scenario construction invaluable in the non-story world.”

Having argued thus far that a biocultural approach is not an overturning of rhetorical tradition, merely an extension of the traditional naturalistic bent our discipline has taken for the majority of its history as a formal subject of study (Chapter I), that we need not rely on an artificial bifurcation of nature and nurture to understand persuasive behavior (Chapter II), that persuasive behaviors indeed confer fitness benefits on those who use them (Chapter III), that rhetoric is a particular form of animal signaling that implies the intentional manipulation of others (Chapter IV), and that a fundamental precursor to suasion is a fully-developed theory of mind (Chapter V), I now want to provide evidence for the thesis of this dissertation, that a biocultural approach to the study of rhetoric is both useful and necessary, by applying this approach to a canon of rhetoric that is in particular need of enrichment. That is, the oft-neglected canon *memoria*.

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Memory is an especially salient topic because of its centrality to both rhetorical performance and the study of evolutionary cognitive psychology. This makes the exploration of the connections memory can help us forge between rhetoric and evolutionary psychology valuable as not only a conclusion to this dissertation, but also as an introduction to how a biocultural approach to rhetorical theory can make an original contribution to the field. Reintroducing evolutionary theory after its long hiatus between Burke (1950) and Kennedy (1992) (and a long, conspicuous silence between Kennedy and today), will open up large swathes of territory rhetoricians will need to reexamine after being disconnected for so long from all but the most significant and well-accepted (to the point of being in danger of seeming out of date) information in the cognitive sciences. Moreover, the biocultural paradigm allows rhetoricians to move beyond folk psychological explanations of memory and get at the actual mechanisms of memory. Just as astronomy was advanced through the application of mathematics, the study of any human behavior (including the act of persuading) is going to benefit from a greater understanding of the operation of the organ that produces that behavior – the brain.

Human behavior is the product of a mind that evolved to overcome certain obstacles to survival in our evolutionary environment. Culture is one, presumably adaptive, product of this evolution. By naming a behavior adaptive, I mean that it increases an organism’s ability to pass on its genes to subsequent generations (often this means living longer and breeding more), propagating the gene complex that supports culture use. Cultural evolution allows humans access to a pool of knowledge beyond their own – culture provides us with historical insight, which helps us react to novel challenges. But because modern rhetoricians often treat culture as a force existing outside of, or in opposition to, nature, it is important to illustrate how any study of
human cultural practices can benefit from further knowledge about the biological systems that contribute to the development of the behaviors in question. The give and take of culture and biology has become so entrenched in human behavior, in fact, that we rarely notice the two forces cooperating or competing to influence our actions. Yet both are constantly present.

In this chapter I will focus on one particular way in which a biocultural approach – one that examines the interplay between biological and cultural forces in shaping human behavior – can enhance rhetorical scholarship. There exists a theoretical nexus, waiting to be explored, that connects the fourth canon, memoria, to current scientific work on memory and simulation in the context of grounded cognition. By comparing classical notions of memoria (notions that still heavily influence rhetorical scholarship), as well as modern treatments, to research in modern evolutionary psychology, I want to expand on existing ways of thinking about one canon of rhetoric, in order to demonstrate the utility of biocultural analysis for the history and theory of rhetoric. In order to effectively analyze the history of human thought and behavior, we must take into account all aspects of being human; that entails both a historical, cultural awareness and an awareness of the physical restraints and abilities unique to human beings on the whole.

Evolutionary biologists and cognitive psychologists have already begun doing the work rhetoricians need to be doing, in order to expand the scope of humanistic explanations of memory. Psychologist John Sutton unambiguously invites humanists to the table when he suggests that “memory does clearly require a framework which allows us to study brain and culture simultaneously,” yet humanists do not heed these calls from life and social scientists,
despite the increasing frequency of these overtures.\textsuperscript{220} We are in many respects ceding our intellectual domain by an unwillingness to reach a hand across the aisle to our colleagues who are also doing important work on memory and communication. Where we do not wish to talk about the intersections of our domain (culture) and theirs (biology), they are proceeding without us. We should beware that we do not find ourselves unnecessary soon. In a field beset by economic challenges and public mistrust, we need to re-envision collaboration with science as not a ‘deal with the devil’ so much as an olive branch from individuals of diverse disciplines willing to share the burden and the reward of interdisciplinary scholarship on memory.

The canon of memory, it should be noted, does not merely mean recall of past events or rote-memorized ‘facts.’ Nor is it merely a function of \textit{mimesis/imitatio}, despite the importance of this imitation as a method of instruction. These limited definitions of rhetorical memory are in some ways the result of a shift from oration to composition as the default mode of knowledge transmission in the modern world, which deceived many into believing that memory was no longer a significant aspect of persuasion when speeches no longer needed to be memorized.\textsuperscript{221} Although these limited definitions of memory continually resurface in rhetorical theory, as well as in popular science writing, the canon \textit{memoria} historically represented more than mere recall.

Plato, for instance, sees memory as a form of reproduction. When his character Socrates in the \textit{Phaedrus} is confronted with the topic of reproduction, he states quite flatly that rather than plant a genetic seed, he would prefer, like a “good husbandman,” to plant the seed of noble ideas in his students’ minds, thereby making himself immortal (\textit{Phdr.} 277A; a similar sentiment in


\textsuperscript{221} Ong, \textit{Rhetoric, romance, and technology; studies in the interaction of expression and culture}: 13.
This proclamation channels the field of modern memetics, which describes the discreet units of culture (memes) that we artificially select (or unconsciously adopt) in order to choose which social components we adopt and which we refuse. Memes can be ideas, concepts, or even advertising jingles, so long as they are capable of surviving the selection process in whole. Thus, if Plato has innovated sufficiently important memes (or even just ‘catchy’ memes, like popular music stuck in one’s head), he will be able to pass on his memes at a significantly reduced cost than if he were to attempt to pass on his genes. In fact, people might even pay him to receive his memes, if they become popular enough.

Cultural transmission theories (like memetics) help us to recognize that we need to expand our definition of the fourth canon, as memory is more than mere recall. Memory is an interrelated system of cognitive abilities that allow us to recognize, recall, associate, integrate, and define the data we gather through sensory perception, reason, and social learning. It stores not only those mundane instants of recall, which we commonly call our memories, but also our mental blueprints of the spaces and places we occupy. Memory can even be stored and retrieved outside the human brain, whether this is through simple symbolic means, like tokens in a board game, or through complex systems of information storage, like computer hard drives. Most importantly, memory is suffused with the emotional markers of affect; what we feel is often as important as what we touch, see, or smell, when priming memories, which calls into question any theory of memoria that treats the canon as a tool for information storage and recall alone.

223 Precisely what this means, and whether memes are now a ‘second replicator’ is the subject of great debate among biologists and cultural critics. Suffice it to say, ideas are transferred in a relatively reliable manner, and can be selected individually or as part of a memeplex that combines many mutually-supporting memes (like religion or nationalism, for examples).
224 While this is not unheard of in regard to genes, it is much more commonplace even today to pay to hear a lecture or a concert than to purchase reproductive material from someone else.
Because memory is fundamentally tied both to our biology and to our external world, and because it also exists as a traditional canon of rhetoric, it is especially important to revisit our understanding of the role of memory and its relationship with the other canons of rhetoric. While I will not draw further comparisons with memetics in this essay, it is an important example to preface a larger argument: a biocultural perspective provides new ways to envision the art of persuasion, and the information gained thereby will enhance our discipline by reestablishing connections with the professional life- and social-sciences.

II. Memoria and Grounded Cognition

Beyond the reproduction of ideas, memory in the ancient world was also important for developing *facilitas*. Quintilian calls this “the ability to improvise effective language,” and it is intricately tied to the canon of memory.\(^{225}\) Michael Leff provides a potent example. He tells us that Quintilian (II.i.9-12) “stresses the importance of the *loci communes* as oratorical exercises” in order to create a stockpile of examples to access and adapt later.\(^{226}\) These “commonplaces” of rhetoric are argumentative exercises or scenarios based on principles, not particular cases. They could be rehearsed and stored for later use – the traditional metaphor being that they are like weapons in an armory. However, they are not merely accessed and applied verbatim. Like any scenario accessed from memory, a commonplace must be fine-tuned to suit the rhetorical

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situation of the present. For example, if the President of the United States of America were to hear his audience jeering every time he began his speech with the now pro forma, “My fellow Americans,” he might alter the phrase to something more pleasing in the future, or something more particular to his audience, while still attempting to maintain the unifying, inclusionary rhetoric that “my fellow” is meant to provide.

In Leff’s view, then, Quintilian binds closely the arts of memory and invention. Leff makes the distinction between what he calls verbal memory (which is passive, rote learning and retrieval) and memory of substance (which is an active, productive process). Memory of substance translates verbal memory and sense perceptions to create new knowledge based on the old. This view of memory is quite similar to the way evolutionary cognitive psychologists characterize episodic memory and semantic memory, key components of the study of grounded cognition. This suggests that there may be important connections between rhetorical scholarship on memory and current neuroscientific research on memory function. Revealing some of these similarities may help us form a fuller picture of the roles of memory in cognitive function (including rhetorical processes, like invention).

Grounded (or embodied) cognition offers a view of the human mind that suggests its relation to bodily states and its dependence on perception are integral to explaining cognitive activity. Rather than considering the body a support system for the mind, it is better to address the body as a whole, recognizing that the mind is one of many essential parts. Human (and likely other animal) thoughts exist as they do because of the bodies that ground them in the

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227 Ibid., 449-50.
natural world and feed them information from sensory organs. Grounded cognition thus transcends cultural constraints, appealing to those aspects of human physicality that we all share. While the idea of grounded cognition is empirically well-established, it has yet to be fully theorized, and as such raises some concerns about the extent of its applicability. Thus I have attempted to limit this discussion to aspects of embodiment that are generally well-accepted among mainstream cognitive psychologists. This includes the processes of episodic and semantic memory, as well as simulation – concepts that grounded cognition’s opponents still acknowledge as useful ways of thinking about the phenomena they describe.

Modern psychologists tell us that we create declarative memories of at least two different types based on the external input our minds process and check against past experience. Episodic memories cover specific instances ‘tagged’ with identifying information from their sources, rarely recreating full experiences. For instance, if I recall a dress my partner once wore that I particularly liked, this concept of (DRESS) could have the tags “blue flowers,” “June of 2007,” or “Jim and Heather’s wedding” attached. These tags function as geographic, emotional, and temporal descriptive markers that make accessing memories by association much easier later on. Semantic memories, on the other hand, are sets “of representations in an

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231 For example, David Rubin’s basic systems model does not throw out the divisions of declarative memory altogether so much as further divide them into categories based on their function, or the aspects of stimuli they tend to remember. Cf. David Rubin, "The Basic-Systems Model of Episodic Memory," *Perspectives on Psychological Science* 1, no. 4 (2006).
232 Episodic and semantic memories are the two recognized types of declarative memory, which is a division of our general concept of memory. The other common division of memory is procedural memory, which is used for remembering how to physically manipulate objects. I will not treat procedural memory here, as it is not relevant to the discussion of most forms of rhetoric.
organism’s brain corresponding to regularities experienced in external objects and situations.”

That is, while episodic memories are specific and anchored to a particular situation, semantic memories are conceptual, related to a person’s general knowledge about the world. They are the mind’s generalized rules, say, about a dress qua dress.

What Quintilian might say about our blue dress discussion is that the semantic memories described by evolutionary psychologists are akin to his concept of natural memories: “The natural memory is made up of all those things that become embedded in our minds” (III.xvi.28). These memories are the naturally forming generic rules our minds create without our help. He compares this to the artificial memory, which we may train to remember particular details. Nature shows us how to train our memories, he says, following pseudo-Cicero of the Rhetorica ad Herennium (III.xvi.28-9; Quint. Inst. III.xxi.35-6). It is the striking and the novel that we learn. If what we need to learn is not striking, we must supply it with a backdrop, and place its pieces in the foreground: “let art, then, imitate nature” (imitetur ars igitur natura) by creating the novel from the mundane (III.xxi.36).

This decree refers to the classical architectural model of memory – what Yates (1966) called the ‘method of loci’ – that later flourished in the Renaissance and still has its following today among magicians and other performance artists who execute memory tricks for a public audience. In order to perform these memorization tricks, the performer constructs a wholly contained backdrop, or what evolutionary psychologists call a cognitive map – a sort of ‘visual’ mental image that represents concepts and objects spatially for easier reference. Tellingly, people

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235 Endel Tulving, “Episodic and semantic memory: Where should we go from here?,” Behavioral and Brain Sciences 9, no. 03 (1986): 574.
often say they ‘envision’ the places described in novels, creating a mental picture or map of the setting an author describes. This is a cognitive map, or a backdrop for our own unconscious memorizing techniques.

These backdrops are important tools for memory, as some evolutionary psychologists believe that our ability to remember objects is – in part – dependent on our ability to remember their locations in space. This makes sense in the context of the embodied mind, as well. George Lakoff and Mark Johnson famously suggested that the conceptual scheme that drives human thought and language is largely based on metaphors we create from our shared physical reality. We associate the direction up with good (“Things are looking up!”) and equate bigger with better (“Big news, everyone!”), and even consider abstract concepts like love as metaphors for physical journeys (love can be “on the rocks” like a shipwreck if it is bad, while it is “smooth sailing” when we are enjoying our relationships). This might explain the success the method of loci finds as a memory aid for some, since what one is doing is placing abstract concepts on an imagined physical backdrop.

One common choice of backdrop used in the method of loci is a house, but the options are limited only by the memorizer’s imagination. Once a backdrop is chosen – and let us stick with a house for sake of simplicity – then each item that is to be memorized is associated with one aspect of the house. For instance, if I am to remember a long list of terms, including hat, lamp, and baseball bat, I might narrate my journey through an imaginary house by thinking to

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237 Lakoff and Johnson, Metaphors we live by.
238 Ibid., 45.
myself, “I enter the doorway and hang up my hat. Then I exit the foyer without bumping the lamp, and walk down the hallway, where the baseball bat rests against the wall.” While it seems like the performer would actually have to memorize much more information this way, this is not the case. The semantic memory (or Quintilian’s natural memory, or Leff’s memory of substance) already contains the general rules for the concept “house,” including the parts many houses have – doors, foyers, hallways, etc. It actually becomes easier to access the new information as episodic tags are supplemented by semantic rules. While most houses have hallways, this one in my mind happens to have a bat leaning against the wall. It is therefore striking and novel, and easy to remember.

This scheme makes sense in terms of human development because “memory evolved in service of perception and action in a three-dimensional environment.”239 We move through the house in our minds, and while this house is not real and present, it represents concepts that have been built up over many experiences with real, physical homes. This is necessary because of the way human memory functions: the less frequently we are asked to produce a type of information, the more often episodic memories are retrieved.240 To rephrase, we confront new concepts and challenges by attempting to relate them to our personal experiences, not to general rules. Thus the striking and novel meet the well-established memories of past experience, interacting to aid recall. However, some rhetoricians have taken the idea of the striking and the novel even further when constructing their tableau. Their backdrop buildings are often peopled with mythical figures “sometimes spectacularly deformed or frozen in a weird or bizarre action to fascinate the

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imagination,” as Walter Ong relates. Such a frightful image could be represented by the famous Laocoön sculpture currently housed in the Vatican, which depicts the priest of Apollo, who was struck blind for his impiety, entwined by the serpents that kill his sons. The more striking the features, the easier to associate them with the episodic tags one needs to remember.

III. Memory and Simulation

To present a complete analysis of memory’s continued importance in rhetorical theory, beyond mere recall, it is important to discuss the role of simulation in the thought processes of humans. This will strengthen the ties I am attempting to create between memory and behavior, including the act of persuading. The process of appending episodic memories to semantic ones is similar in many respects to the process of simulation. When simulating, we take the pertinent semantic rules and the episodic memories of experience we have formed in our minds and attempt to play out scenarios based on realistic potential actions and reactions each simulated actor can choose. Like anticipating an opponent’s moves in the strategy board game Risk, often three or four possible move combinations in advance, a simulation takes existing rules from memory and ‘plugs in’ possible actors and actions to create new information. Evolutionary literary critic Brian Boyd summarizes: “we think, remember, and imagine by mentally simulating

241 Ong, Rhetoric, romance, and technology; studies in the interaction of expression and culture: 106.
or reactivating elements of what we have previously perceived, understood, enacted, and experienced.”

This imaginative process cannot happen without the aid of memory. In order to envision “coherent and detailed personal happenings in the future,” cognitive neuropsychologist R. S. Rosenbaum asserts that we absolutely require the ability to consciously access personal happenings from our past. This is not surprising, however – if we wish to place ourselves in a hypothetical situation, we must have memory of a self, and of the experiences that have shaped that self. The imagination we humans are capable of is based on unconscious processes that rely on metaphor “to map aspects of long-term memory onto immediate experience.” Without our personal memories, we are limited to generalized rules that are more difficult to apply to particular situations.

An example or two should further clarify the scope of human simulation. Anyone who has ever been nervous about a job interview can attest to the benefit of running scenario after scenario in their mind until they would be caught off guard by only the most extraordinarily surprising of questions that potential interviewers could ask. Stephen Pinker explains this phenomenon when discussing the applications of artificial intelligence to the study of literature and the arts: “intelligent systems,” he says, “often best reason by experiment, real or simulated.” Indeed, while it might be tempting in the academic job market to force an entire room full of potential interviewers to list all of the questions they may conceivably ask during an

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245 Pinker, "Toward a Consilient Study of Literature," 172.
interview, it is impractical (and likely to lose one the job, to boot!). Too often the human brain is beset by problems it cannot solve by direct experiment, but can only produce strategic information by constructing complex scenarios based on the elements already known. Much of this is made possible by our ability to pre-load representations we have learned through prior practice and experience, helping us make an end run around what Margaret Wilson calls our “representational bottleneck.”246 If time or complexity constrain our minds from creating full-blown mental models, we fall back on the ‘good enough’ model that often (but not always) serves us adequately in our social interactions.

Simulation can also work to alter semantic rules in useful ways. Lisa Zunshine surmises that semantic memories are composed of episodic memories that have stockpiled enough information that they can be generalized, thereby losing their source tags.247 Endel Tulving agrees that there is a potential to view the known memory systems as interconnected, and possibly existing on an “experiential continuum,” wherein episodic memory functions as a subsystem of semantic memory.248 To illustrate, if I were repeatedly attacked by dogs while walking in the park (and let us hope that this fact remains sound in the world of gedanken experiments alone), I might begin to generalize a fear of dogs, rather than attribute aggression or pain to one particular dog or to my experiences walking in that specific park. Likewise, the contingent nature of episodic memories could be strengthened if one particular dog in the park persistently shows aggressive behavior, while all of the others are friendly. I might construct appropriate source tags about aggressive dogs, such as “Rottweiler” or some shorthand for “dog at Memorial Park in a rhinestone collar,” rather than generalize. As I build a concept (DOG) in

248 Tulving, "Episodic and semantic memory: Where should we go from here?," 575-6.
mind, I accumulate more and more episodic memories, and a general definition begins to form.  

Our memories do not form as exact replicas, however, like frames of film that allow us to replay a scene precisely over and over again. Rather, episodic memories work like library indices that are part of an “adaptive design that helps us to retrieve and recombine memories in order to run vivid simulations of future experience.” If, staying with the example above, I have catalogued enough dog attacks in parks in my memories, I will be able to reflect on past scenarios in order to avoid future attacks. Had I just purchased a hot dog from a vendor before being mobbed? Did I run at the sight of a large dog, evoking its predatory response to chase me? Or was it merely that all dogs seem to hate me? 

Central are the roles of perception and action in cognition. My ability to simulate future encounters with dogs depends on my ability to learn from the experience of sensory input and to accumulate memories from which I can construct my simulations. It is even possible that forming episodic memories is a natural prerequisite for the conception of a sense of self. Evidence for this comes from various observations, not least of which is the way mental concepts are physically grounded – their relationship to the physical world is more pronounced as the concept becomes more concrete. Many concept-nouns will activate our automatic motor 

251 Recent work even suggests that the more facets involved in creating memories, the better the memories are stored. Evidence for deaf signers’ ability to learn linguistic symbols more efficiently than people who do not use both articulatory and visuospatial aspects of working memory (e.g. language speakers) is summarized in Tomoyoshi Inoue, "Memory in deaf signers and embodied cognition of sign languages," Japanese Psychological Research 48, no. 3 (2006).  
252 Barsalou, "Grounded Cognition," 621.  
253 Skowronski and Sedikides, "Temporal knowledge and autobiographical memory: an evolutionary perspective," 508.
responses; for example, imagining the concept (PENCIL) automatically begins the process in our brains required to perform the precision grip we would use on a writing utensil.\textsuperscript{254} If cognition is embodied thus, my claim that memory and a sense of self go hand in hand is not as difficult to imagine. Returning to our working example, it was not until humans could remember events like individual dog attacks that we could imagine ourselves as individual actors (or victims) in them.

**IV. Practice, Play, and Routine Memoria**

Chance encounters with territorial canines are not the only way to translate these types of memory, however. Simulation could affect a change in the nature of memory through repeated application. If simulated actions work in various scenarios, they can alter a semantic memory by allowing the organism to make stronger inferences based on the new rules. This is, of course, a fancy way of saying ‘practice makes perfect.’ From a biological standpoint, the idea that we practice to improve ourselves is a given. To take the example of animal play as a particular form of practice, there are very few feasible explanations for what is, in the end, a seemingly wasteful behavior. For organisms to spend vast amounts of their energy performing play, even when resources are limited, the activity must have a strong correlation to later survival and a greater potential for reproduction. There are two main advantages to practice-play in the animal world, the physical and the mental. Physical advantages include strengthening muscles, building

endurance, and increasing stamina. Mentally, practice-play helps an organism to streamline decision-making processes.

In the history of rhetoric, we witness many approving references to play, especially those varieties of mental play that can enhance rhetorical acuity. Cicero spends a significant portion of his *De Oratore* on the subject of wit (which I would categorize as a form of mental play), and even describes approvingly episodes where noble orators in Rome turn into mere country boys at play when they are on vacation outside the city. Isocrates, too, supported both classroom practice and low-stakes mental combat. His progymnasium combined rhetorical analysis, practice, and rehearsal of set speeches to increase a young rhetor’s skill and experience. This he supplemented with regular declamations or debates to sharpen students’ poise under pressure. Mental practice-play is indeed a time-honored tradition in rhetorical pedagogy, but we must not underestimate the mental effects of physical practice, either. Studying the rhetoric of teachers of fine woodworking in England, Trevor Marchand comes to the conclusion that “physical practice communicates” essential and persuasive information to others, and “like language, its component elements can be parsed by an observing party and acquired as mental representations by his or her motor domains of cognition.” Although the effects of physical demonstration have received little attention in terms of the biological and rhetorical functions, it is an important aspect of practice that should be considered in future studies.

To an observer of animals at play, it is striking how even much larger animals do not always adopt the dominant role in play-fights. Alternation of attack and defense postures allows the animals to test out strategies in many different, constantly changing scenarios. This sort of

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practice, at what could become dangerous fighting over territory or mates later in life, not only enhances muscle memory, but it also moves decision making processes further back in the brain, where they do not require the limited resources of immediate processing. Higher order strategy can then occupy the frontal lobe, while generalized rules remain stored in long-term memory.

So, too, the human animal. When scanning the brains of human subjects, psychologists have found that effects of practice multiply upon themselves. In discussing mirror neurons – circuits in primate brains that fire when they see someone else performing the action they would normally control – psychologist Lawrence Barsalou notes that those who have practiced an action are far more likely to respond automatically to the sight of that action being performed by others. “When reading about a sport, such as hockey,” Barsalou explains, “experts produce motor simulations absent in novices.” Although it sounds neurologically Lamarckian, prima facie, practice and play seem to affect how our brains develop and how we respond to the actions of others, which is different from the genetic transmission of learned abilities. The better we become at dealing with one challenge, the more automatic our responses seem, and the more mental resources we then have available for other tasks. We can, to some degree, automate our responses, reducing considerably the cognitive load more technical actions require.

This routinization of memory is echoed in Cicero’s two modes of inquiry in the Topica. Cicero divides inquiry into hypothesis, which represents the particular, and thesis, which represents the general question. The example Cicero provides for thesis is the question “Should one marry?” To demonstrate hypothesis, he asks the more specific, “Should Cato marry?” The

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connection to memory translation is clear (hypothesis relates to episodic tags, and thesis compares to the general rules of semantic memory), but not complete unless one decides whether many ‘Catos’ should or should not marry and then one settles upon a general rule for future behavior related to marriage. If this can be done consciously, then Cicero’s promptings to learn extensively and to practice diligently are even more valuable to the speaker than once thought. More information about one’s environment makes for better semantic rules, and more practice leads to routine decision making.

From the Greco-Roman tradition, there is little that better demonstrates the art of scenario-building in order to achieve the goal of memory translation than Seneca Rhetor’s controversiae and suasoriae. Composed in order to provide his students with valuable practice in the arts of forensic and deliberative rhetoric (respectively), the controversiae and suasoriae were elaborate fictional scenarios involving legal and moral dilemmas of varying weight. In fact, some of the scenarios were quite absurd when taken at face value, often involving pirates and the sudden return of parents or spouses long thought drowned at sea. What is most surprising about these elaborate tales is that it could be their absurdity that lends them strength.259 Patrick Colm Hogan tells us that long-term memories are stored in the mind accompanied by certain emotional markers. When probed by similar scenarios or feelings, they are activated.260 An example of this is when someone mentions the title of a song that triggers an emotional response in one’s mind; one might then associate the melody of that song and begin to hum it. Likewise, these potential cases of law, though overblown in the particulars of the characters involved, could actually yield

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259 The fantastical events were concocted as veiled means of discussing legitimate legal questions without offending the emperor, who might have a stake in the case under discussion. It is ironic, then, that by forcing Seneca to create absurd scenarios, the particulars of these cases might have survived all the longer.
to more responsible associations when accessed by a lawyer undertaking a real case of a similar sort.

To relate the routinization of decision-making back to the discussion of simulation, then, it is important to reiterate that memory in the classical tradition was a much more complex canon than it is often assumed to be today. Cicero tells us that “memory is the firm mental grasp of matter and words” (*memoria est firma animi rerum ac verborum perceptio*) (*Inv. I.vii.9*). As one can see, he does not merely mean recall, but *perceptio*, which implies a collecting and storing of ‘notions.’ These notions of the world, and how *rerum ac verborum* fit into them, are what evolutionary psychologists today call semantic memory. As new experiences are incorporated into memory, they are compared with the existing rules in order to create stronger inferences about the world. And though Cicero would not have been familiar with this connection, it should be of interest to the modern reader to note how keen his insights were, that they can be compared favorably with modern scientific findings.

V. Concluding Remarks on the Present and Future of the Scientific Study of Rhetorical Theory

Despite the novelty of approach I have pursued, many modern rhetoricians have made similar revelations to what I discuss in the sections above, though not in evolutionary terms. Kathleen Ryan reasserts Cicero’s view when she tells us that *memoria* is not merely recall, but “a
way to make new knowledge.” Combined with memory translation, a productive view of memoria allows that an organism can streamline its decision-making processes, creating knowledge from its interpretation of sense perception. Francis Yates agrees with this statement, asserting that “the art of memory is like an inner writing.” Those who know the alphabet can not only write it down and read it later, but this created literacy will continue to interact with the world as a dynamic process. In discussions of grounded (or embodied) cognition, we see similar re-evaluations of memory as existing not merely “to memorize” but to interact with thought and environment.

Again, Victor Villanueva suggests “that there’s something to Plato’s notion of memory as more than recollection,” which is the starting point for his expansion of the role of memory in rhetorical theory and practice. Many evolutionary psychologists agree with Plato’s statement and Villanueva’s aims, taking issue with the common practice of associating memory with passive storage alone, rather than treating the importance of situated action. Inspired by Logan Whalen’s treatment of Marie de France, I would treat memory as a text that, in dialogue with novel sense perceptions and existing episodic tags (again, Cicero’s perceptio), synthesizes a new semantic memory or rule. George Campbell puts it most eloquently when he says, “Memory, therefore, is the only original voucher extant of those past realities for which we once had

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263 Glenberg, "What memory is for," 1.

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evidence of the sense.” If I might be so bold as to suggest one improvement to his statement, we should substitute the phrase “semantic and episodic memories” for his undifferentiated use of “memory.” This done, we have the beginnings of a modern scientific theory supported by the most current research in evolutionary psychology. This would have pleased Campbell immensely, who desperately wanted to prove rhetoric a science based on human nature.  

As science and the humanities progress, new methods must develop to explore our past based on the best evidence available. Thus, an evolutionary framework does not seek to inflict anachronistic views on classical authors – it means to interpret the mental states of those organisms that were attempting to navigate their physical and cultural environments. By offering an evolutionary explanation for how rhetoricians’ views on memoria might reflect their biocultural realities, I want to clarify, not impose. The sort of commentary I have provided in this essay can be useful for understanding motives, if we understand that much of our translation must remain impressionistic. Cicero did not likely think in terms of genes and memes, but here and there he made some awfully perceptive remarks about the interplay of biological and social forces. If capturing these moments of insight and putting them under a microscope can yield results not heretofore gleaned by traditional methods, then an evolutionary approach to rhetoric will open up a whole new set of necessary questions about the effects of both biology and culture on rhetorical theory.

VI. Significance of the Interdisciplinary Approach

267 George Campbell and Lloyd F. Bitzer, The philosophy of rhetoric, Landmarks in rhetoric and public address (Carbondale,: Southern Illinois University Press, 1963), 47.
Having claimed above that some classical and modern notions of *memoria* can be enriched by a deeper look into cognitive and evolutionary science, it is important that I expand and clarify my discussion of this payoff for an audience of rhetoricians. For life scientists, the payoff should be clear. If we take Niko Tinbergen’s (1952) four perspectives for analyzing behavioral traits as our starting point, the adaptationist research program represents a neglected arm in the study of human communication. Tinbergen’s four categories are:

- Mechanistic: describing the neural, physiological, or psychological mechanisms underlying a trait’s expression
- Ontogenetic: explaining the underlying genetic and environmental factors that guide the development of the trait
- Functional: the fitness consequences of the trait (helping to survive longer or reproduce more)
- Phylogenetic: exposing the evolutionary history of a species, in order to evaluate the structure of a behavioral trait in light of its ancestral features

As Hauser tells us, both function and phylogeny require further attention, as they are oft-neglected areas of inquiry. These are also areas of inquiry that could contribute much to the ongoing efforts of rhetoricians to understand the psychological forces that drive our persuasive efforts.

The biocultural paradigm offers many more benefits, but two are of particular importance in this context. First, the tradition of rhetorical scholarship built up over the last two and a half millennia offers a corrective to the limited aims of evolutionary psychology. As seminal evolutionary critic Joseph Carroll notes in a recent interview, what we are missing in scientific

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269 Adapted from this work, where a fuller discussion can be found: Marc D. Hauser, *The evolution of communication* (Cambridge, Mass.: MIT Press, 1996).
270 Ibid., 4.
studies of behavior is that “art, religion, and ideology” are cultural factors that regulate behavior in powerful ways, just as many of the biological factors discussed in evolutionary psychology textbooks do – if we miss out on art and imagination, we miss out on some of the most interesting aspects of being human. Second, adding rhetoric to the adaptationist research program as a specific form of animal signaling allows us to focus on and strengthen connections between a humanistic and a scientific research program that have much to offer one another. Just as literature provides us with “an ecologically valid source of data about what matters” to humans, according to Stephen Pinker, an insight into our “obsessions” and concerns, the way we train and organize our efforts to persuade provides a rich history of rhetoric that is of interest not only to rhetoricians, but to any student of human behavior. It allows us access to the ways prior thinkers have responded to the novel challenges of persuading others, lending insight into argumentation in its many modes, and thus potentially increasing our rhetorical flexibility.

For the rhetorically-minded audience, there are several ways a biocultural approach can enhance traditional views of memoria. As Jordynn Jack notes in the recent special issue of Rhetoric Society Quarterly dedicated to neurorhetorics, our ability to understand the inner workings of the human brain will allow us to view communication (literally and figuratively view it, when examining fMRIs, for example) in its various forms, and under multifarious biological constraints. She notes the study of autistic or aphasic patients as two examples of biological constraint, but even under normal developmental conditions mental plasticity allows for much variance in the behavioral expression of genetic rules. It could be possible someday

272 Pinker, "Toward a Consilient Study of Literature," 163.
to map the neurological pathways of human communication in its many forms, and analyze how these forms interact. Rhetoricians have long been grasping for these answers, as Debra Hawhee reminds us when discussing Kenneth Burke’s treatment of gesture-speech. But we are stumbling around in the dark without an understanding of the way the human brain operates; cultural study alone cannot get us there.

We must expand our ability to map the interconnected traits of the evolved mind, as we learn more about the modules of the brain and how its systems interact. I have attempted above to offer some new insight into how evolutionary psychology can expand our view of rhetoric by making explicit the connections between memory, cognitive maps, and simulation. Some of these connections prior rhetoricians have intuited, in full or part, like the ancient method of loci Yates describes. Our discussions of this method, however, have only been able to tell us what works for some people, but have nothing to offer regarding other fundamental questions: How does it work? Why does it work? Is it adaptive or is it a spandrel – that is, a trait originating as a side-effect of some other adaptive behaviors? If it is adaptive, what are its benefits to an organism? Neglecting these questions leaves us gazing at the stars, wondering what glue suspends them along the vault of heaven, when what we should be doing is polishing off our telescopes so we might understand the mechanisms behind the traits we wish to explain as experts.

Most importantly, a biocultural study of rhetoric is expansive. Instead of focusing on the last 2,500 years of formal study of mostly western, mostly male, highly-literate (read: privileged) rhetoricians, taking a broader view of persuasion will expand the scope of rhetoric and put our

274 Hawhee, "Language as Sensuous Action: Sir Richard Paget, Kenneth Burke, and Gesture-Speech Theory."
previously limited view in perspective. It was not until Charles Darwin chanced upon Lyell’s *Principles of Geology* that he was able to see the

grandeur in this view of life, with its several powers, having been
originally breathed into a few forms or into one; and that, whilst
this planet has gone cycling on according to the fixed law of
gravity, from so simple a beginning endless forms most beautiful
and most wonderful have been, and are being, evolved.275

He was able to expand his view based on the notion of uniformitarianism, that throughout long geologic time the species were able to evolve by means of a slow and gradual process of selection and extinction. How might the study of rhetoric be expanded by thinking in such broad terms?

To allay any fears that we do not have evidence to study rhetoric in ‘geologic’ time, as it were, I would argue two points. First, human artistic production has been recorded to at least 70,000 years ago, taking the form of bead crafting, stylized hand tools, and body adornment. While the rhetorical value of these objects may be vague, significant evidence for persuasive intent reaches back to at least 25,000 years ago, with the discovery of the cave paintings at Chauvet-Pont-d'Arc.276 The paintings in these caves served ritualistic purposes, representing our ancestors’ desire to gain control over their environment through magic, or by invoking their gods of the hunt. That they exist at all tells us that there is fertile ground to examine the Upper Paleolithic as a case study in the continued research into comparative rhetoric. That the form of

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276 Cf. Curtis, *The cave painters : probing the mysteries of the world's first artists*.  

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expression these early humans’ visual rhetoric takes is so similar to that of many modern cultures – cultures where individuals attempt to gain magical power over others by means of constructing images of the subject – raises the important question, “What else have we missed in the intervening 22,500 years we’ve neglected?” The history of rhetoric should concern itself with all of human history, not just a narrow swath conveniently written down or televised.

While many of these opportunities for interdisciplinarity fall far beyond the scope of this particular study, I hope that my treatment of memoria will provide an early demonstration of the utility of a biocultural approach for enriching our understanding of rhetorical theory, one that can be improved upon as the research program matures. Humanists and scientists alike have much to offer one another when studying the art of persuasion, and a biocultural paradigm will allow us to break down harmful binaries, like the nature-nurture divide, and get at the core of human persuasive behavior. For humans, biology and culture are inextricable, and neither makes sense except in reference to the other. To neglect either is to be a volunteer in Plato’s cave, knowing that if only one would turn around, many shadowy images would coalesce into a unified reality. There may be much work to do before a complete understanding of this reality exists, but an essential first step is to welcome additional evidence wherever it may be found, and to begin the process of turning to engage it.


Tulving, Endel. "Episodic and Semantic Memory: Where Should We Go from Here?" Behavioral and Brain Sciences 9, no. 03 (1986).


