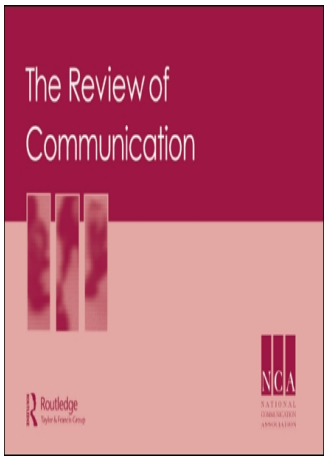

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The Science of Orality: Implications for Rhetorical Theory

Brett Lunceford

Although the Ancients placed great emphasis on delivery, modern rhetorical scholars often overlook the oral dimensions of speech. Speech is powerful because of its ability to elicit a somatic response. Scholars in other disciplines are examining how speech affects the body, but contemporary rhetorical scholarship often overlooks their findings. This essay reviews scholarship both inside and outside of communication studies that demonstrates the interplay between rhetoric and orality, paying particular attention to how scientific scholarship can inform our conception of ethos *and* pathos. *By drawing together scientific and rhetorical scholarship, scholars in all disciplines can gain a greater understanding of how speech affects the mind, body, and soul.*

Keywords: Orality; Rhetoric; Ethos; Pathos; Science; Physiology

> In the beginning was the Word, and the Word was with God, and the Word was God. (John 1:1)

"[W]hen, in the *Encomium of Helen,* Gorgias likened the effects of speech on the soul to the power of drugs over the body, he expressed a cultural truth: 'Speech is a powerful lord'" (Johnstone, 1996, p. 5). Rhetoric as a discipline is based on the belief that language has the ability to alter our perceptions and to persuade us to change our actions. But Gorgias did not say that "reasoning" (*logismos*) is a powerful lord. It is not just the words that are spoken, but the oral dimension of speech that has power. This claim is nothing new—ancient rhetoricians realized this two millennia ago, and in light of modern science they were quite perceptive. The Ancients were not the only ones to recognize the power inherent in the oral/aural dimensions of speech. Modern-day rhetorical scholars such as Poulakos and Whitson (1995) make similar claims. But delivery seems to have fallen out of favor in rhetorical scholarship, and

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the oral and aural dimensions of speech are often neglected. Johnstone (2001) describes our discipline's desire to distance ourselves from orality:

> Just as with the re-naming of our national professional organization from the *Speech* Communication Association to the *National* Communication Association, so it was with my colleagues: an emphasis on the centrality of orality was thought to be too narrow, too traditional, too old-fashioned. (p. 122)

Elder (1999) is one of the few communication scholars who has seriously examined the physiological link between orality and rhetoric, providing excellent insight into the physiological effects of the spoken word with an exhaustive discussion of the human nervous system and brain structures. Elder's stated goal is to "review and apply modern findings that provide theoretical, critical, and practical insights into rhetoric's classical canons of invention, arrangement, style, memory, and delivery" (p. 1). He defines rhetoric as "the communication-induced modulation of memory and memory processing tendencies" (p. 20) and supports this definition by drawing on over 1800 scientific and humanistic sources, many from the cognitive and physiological sciences. This essay has a similar goal—to review humanistic and scientific scholarship to gain a greater understanding of how speech affects us.

Ward and Tsukahara (2003) rightly state that there is "something nearly magical about human-to-human interaction" (p. 604). Scherer (2003), invoking the work of Aristotle, Quintilian, and Cicero, explains that the "importance of emotional expression in speech communication and its powerful impact on the listener has been recognized throughout history" (p. 228). The issue of how speech affects human beings should be a primary concern in rhetorical scholarship. Scholars in other disciplines also grapple with this issue, including computer scientists (Breazeal, 2003; Murray, Arnott, & Rohwer, 1996), speech pathologists and linguists (Aubergé & Cathiard, 2003; Gobl & Ní Chasaide, 2003; Nwe, Foo, & De Silva, 2003; Scherer. 2003), cognitive and developmental psychologists (Rock, Trainor, & Addison, 1999; Tsang & Trainor, 2002; Wallace, 1994; Yalch, 1991), psychiatrists (Hunter et al., 2003), and neurophysicians (Sander, Brechmann, & Scheich, 2003; Sander, Roth, & Scheich, 2003). Even so, the bulk of rhetorical and humanist scholarship seems to ignore much of this research. This paper represents an attempt to rehabilitate the concept of orality by examining how scholarship from other disciplines can inform rhetorical theory. To support the view that the oral, acoustical dimensions of speech have power, this essay will consider some of the distinctions between orality and literacy and describe how scholarship in other disciplines can illuminate our conceptions of *ethos* and *pathos*. I explicitly juxtapose ancient rhetorical theory with modern science in order to demonstrate the continued relevance of the Ancients. In this manner, I hope to invoke the spirit of Vico (trans. 1990) by comparing the "methods of the two epochs" (p. 5), drawing on the best that science and the Ancients have to offer in order to gain a greater understanding of the power of the spoken word.

Orality in a Literate World

With varying degrees of agreement, scholars have synthesized several components that differentiate oral societies from literate ones, although humanistic theories of orality are not without their critics (e.g., Biakolo, 1999; Haskins, 2001). Boas (1925) describes rhythm and repetition as two major elements of oral poetry and speech (p. 339). Ong (1982) lays out a framework of nine attributes of public discourse in oral cultures: it is additive rather than subordinative, aggregative rather than analytic, redundant or "copious," conservative or traditionalist, close to the human lifeworld, agonistically toned, empathetic and participatory rather than objectively distanced, homeostatic, and situational rather than abstract (pp. 37–49). Gagarin (1999) provides a similar set of characteristics of oral style based on his reading of Gorgias's *Encomium*: "signposts, ring composition, parallelism, parataxis, relatively simplified sentence structure, and, of course, the notorious 'Gorgianic' verbal effects" (p. 168). Scholars seem to agree that the poetic dimensions of oral speech—repetition, rhythm, and the participatory and situational elements of speaking—are integral elements of speech in an oral society, in part because poetic expression serves as a mnemonic device that allows for both aesthetic pleasure and memorability.

Bassi (1997) explains that in ancient Greek culture speech as poetics and speech as human intercourse are separate, but still to some degree intertwined: "The poet as an oral composer . . . cannot be completely distinguished from the hero as an oral speaker" (p. 317). Ong (1982), synthesizing Biebuyck and Mateene's work, demonstrates this point by describing a performance of the Mwindo epic in which the performer, audience, and character are bound together as the performer lapses into first-person narrative and the audience is woven into the story (p. 46). Finnegan (1992) remarks:

> Those who think of oral poetry as necessarily communal and non-individual may be surprised to find how much poetry is presented in the first person. In heroic narratives the action is commonly in the third person, but it is also presented as if the singer/poet was himself the hero. (p. 116)

In other words, the split between audience, performer, and "text" is often blurred in oral cultures. It seems that the participatory nature of orality has something to do with the entrancement of the audience. Haskins (2001) asks, "What, in addition to its perceived power, enables poetic speech to achieve the quality of *alētheia*," answering that not only is poetry tied to religious ritual, but its impact is dependent on audience response (p. 160). Later, Haskins argues, "[T]he pre-literate culture of poets and prophets conceived of speech as an aesthetically potent—almost magical—social event, which activated in the listeners commonly held truths" (p. 160).

It is clear that oral performance played a large part in civic life in ancient Greece. Perhaps this is one reason why Havelock (1986) bluntly states: "[W]hen Plato, in his *Republic* and elsewhere, seems to disparage if not outright reject his poetic predecessors, he cannot have meant what he plainly says" (p. 122). Lentz (1989) also recognizes Plato's paradoxical attitudes toward the rhapsodes (performers of oral poetry), explaining that although Plato bans the poets from his ideal state, the

rhapsodes are not even mentioned. Lentz points out: "[T]he rhapsodes and their oral performances are such an integral part of society, as the *Laws* suggest, that banning the poets is equivalent to banning the rhapsodes" (p. 44). But Lentz also notes that Plato's reluctance to ban the rhapsodes "suggests respect for the function of the rhapsode in contemporary Greek society" (p. 44). Perhaps there is also reluctance to offend the gods; Plato (1977 version) attributed the poetic to divine madness, or possession by the Muses (245a).

Oral performance of stories and poems sustains culture and serves a normative function. Ong (1982) points out that the only way to retain information in an oral culture is to "think memorable thoughts," explaining:

> [Y]our thought must come into being in heavily rhythmic, balanced patterns, in repetitions or antitheses, in alliterations and assonances, in epithetic and other formulary expressions, in standard thematic settings (the assembly, the meal, the duel, the hero's 'helper', and so on), in proverbs which are constantly heard by everyone so that they come to mind readily and which themselves are patterned for retention and ready recall, or in other mnemonic form. (p. 34)

Goody (1977) also demonstrates this in his study of the Bagre rituals of the LoDagaa in northern Ghana—those who perform the Bagre act as caretakers of cultural heritage in a similar way to the rhapsodes. Lord (1960) builds a theory of orality through his study of traditional singers in Yugoslavia and Eastern Europe, who likewise share this function. Through poetry the norms of culture are established: heroes and cowards are described, past glories are enshrined, and rites of passage are performed, and all of this is performed in the same mode of expression—the poetic.

Primary oral cultures that exist in the ways that scholars such as Ong, Havelock, and Goody describe are rare today. As societies move from orality to literacy, there seems to be a cognitive shift from the concrete to the abstract—Ong (1982) explains that there is "no way to refute the world of primary orality. All you can do is walk away from it into literacy" (p. 53). In addition to the shift in thought process, there is also a shift in aesthetic sensibilities. Schiappa (1999) points out that much of the criticism of Gorgias's overly poetic style seems more a result of the literary mindset of his critics and less an indictment of his effectiveness (p. 99). Even Aristotle (trans. 1984b) noted that Gorgias was well thought of by the masses: "Even now, the majority of the uneducated think such speakers [as Gorgias] speak most beautifully. This is not the case; but the lexis of prose differs from that of poetry" (1404a26–28). Schiappa (1999) suggests, "[O]nce it is realized that Gorgias' speeches were composed for oral performance for audiences with aural predilections, it is possible to reconcile the fact of his popularity with the severe treatment his works later received at the hands of critics" (pp. 99–100). In his literate mindset, Aristotle seems to chafe against the oral, poetic mode of expression. But in an oral culture, expression must be poetic in order to be memorable to the audience; Schiappa explains that these are the very qualities that made Gorgias's style so powerful and remarkable (see pp. 85–102).

In spite of changing aesthetic values, the somatic experience of speaking and hearing another speak remained and, even as literacy began to shape society, it is clear that the Ancients understood the power of the spoken word. Lentz (1989) argues that

Isocrates was perhaps the first to separate speech from the audience, taking a step toward a more abstract conception of the audience. Even so, there remained a kind of tension for Isocrates in that he was split between the emerging literate world and the still dominant oral world. Lentz writes:

> Isocrates was the first to exhibit consistently so many characteristics of written composition and thought throughout his works. On the other hand, however, even this most writing-conscious of Greeks did not make a clean break from the oral tradition of memory and performance for an audience. (p. 128)

Isocrates wrote rather than performed speeches but he still saw the value in eloquence and delivery. In the *Antidosis*, he recounts that the best orators were also those who had most benefited Athens. Speaking of Themistocles' counsel to abandon Athens, he asks, "And who could have persuaded them to do this but a man of surpassing eloquence" (Isocrates, trans. 1928a, 233). He concludes, "Of these men who carried out such great enterprises not one neglected the art of discourse; nay, so much more did they apply their minds to eloquence than other things, that Solon was named one of the seven sophists" (235). Isocrates' clearest explanation of the superiority of the spoken word to the written appears in *To Phillip*:

> And yet I do not fail to recognize what a great difference there is in persuasiveness between discourses which are spoken and those which are to be read. . . . For when a discourse is robbed of the prestige of the speaker, the tones of his voice, the variations which are made in the delivery, and, besides, of the advantages of timeliness and keen interest in the subject matter; when it has not a single accessory to support its contentions and enforce its plea, but is deserted and stripped of all the aids which I have mentioned. (Isocrates, trans. 1928b, 24–26)

He concludes that this kind of discourse should "make an indifferent impression upon its hearers" (26–27). Isocrates, obviously influenced by his teacher Gorgias, seemed to view the written word as a hollow substitute for the spoken.

Cicero (trans. 1897) likewise contends:

> Delivery . . . has the sole and supreme power in oratory; without it, a speaker of the highest mental capacity can be held in no esteem; while one of moderate abilities, with this qualification, may surpass even those of the highest talent. (III. LVI)

While delivery is how the orator expresses the message, eloquence can be thought of as expressing the appropriate message at the appropriate time in the appropriate way. Thus delivery is a fundamental component of eloquence. Cicero viewed eloquence as more than simply a way to persuade—it was the basis of civilization. In *De Inventione*, he relates a fable about when people began to live in cities, to submit themselves to the laws of justice, and to sacrifice their personal interests for the common good, even though there were some who could have resisted the notion of equality because of their superior strength.

> Certainly only a speech at the same time powerful and entrancing could have induced one who had great physical strength to submit to justice without violence, so that he suffered himself to be put on a par with those among whom he could excel. (Cicero, trans. 1949, I. II. 3)

To say the wrong thing would have had little effect; likewise, to say the correct thing poorly—without power and the ability to entrance—would have proved ineffective as well. The civilizing function of eloquence is further explained in *De Oratore*:

> But the real power of eloquence is such, that it embraces the origin, the influence, the changes of all things in the world, all virtues, duties, all nature, so far as it affects the manners, minds, and lives of mankind. (Cicero, trans. 1897, III. XX)

In these passages, we can hear echoes of Gorgias, especially in Cicero's use of the term "entrancing." The hypnotic power of speech can tame the savage nature of man; there is little that falls outside of the influence of eloquence.

To consider how speech worked in an oral world, it is useful to examine the work of a master of oral style—Gorgias. It should come as no surprise that Gorgias found delivery to be an important element of persuasion, and a core element of his delivery style was the incorporation of poetic speech. Philostratus (1972 version) explains:

> [Gorgias] was an example of forcefulness to the sophists and of unexpected expression and of inspiration and of the grand style for great subjects and of detached phrases and transitions, by which speech becomes sweeter than it has been and more impressive, and he also introduced poetic words for ornament and dignity. (I. 9. 2)

Gorgias was known for his flowery speech, which Aristotle (trans. 1991) argued was "too poetic" (1406b4). But it seems to be this poetic quality that gives speech its power. Poetic speech has a rhythm that can draw the listener in and evoke an emotional response (see Welch, 1925). Moreover, rhythmic speech has an incantatory property. In the *Encomium of Helen,* Gorgias (1972 version) explicitly discusses the power of incantation: "Sacred incantations sung with words are bearers of pleasure and banishers of pain, for, merging with opinion in the soul, the power of the incantation is wont to beguile it and persuade it and alter it by witchcraft" (p. 10).

Connors (1986) calls Gorgias:

> the most successful manipulator of oral consciousness whose works the ancient world have left us. . . . Gorgias was the most popular speaker and most successful sophist of his time because he recognized more clearly than any other rhetor how to exploit the power of the *logos* in an oral culture. (p. 47)

Several scholars have described how Gorgias's style was carefully crafted for maximum persuasive effect (e.g., Connors, 1986; Schiappa, 1995, 1999; Segal, 1962; Smeltzer, 1996). Segal (1962) argues forcefully that Gorgias had formed a system of rhetorical theory based on observed psychological response:

> There is, moreover, even a closer relation between the emotional life of the psyche and the physiological phenomena with which these psychic processes are made analogous, for not only does the psyche have a quasi-physical reality, but it also manifests its affects in physical signs, the 'shudder' (φρίκη) and 'weeping' (πολύδακροζ) alluded to in [*Helen*] 9, where Gorgias shows his interest too in the physiological form by which movements within the psyche are indicated. (p. 106)

It is clear that Gorgias recognized the connection between persuasion and emotion, but there is still the question of how the aural attributes of speech entrance and

persuade the listener. Part of the answer to this question can be found in the assumed goals of the Sophists. Poulakos (1983) explains, "[T]he Sophists conceived of rhetoric primarily as a *technē* (art) whose medium is *logos* and whose double aim is *terpsis* (aesthetic pleasure) and *pistis* (belief)" (p. 36). Segal (1962) explains how aesthetic pleasure amplifies the persuasive power of speech:

> The process of persuasion is thus for Gorgias more complex than a simple conquest of reason by the irrational powers of the *logos*. There is rather a psychic complicity in the emotive action of the *logos*: the psyche participates in and reacts to the artistic composition of the *logos* and thus experiences *terpsis*; it is hence regarded as a perceptive, aesthetically sensitive organ upon which the work of art acts. When the aesthetic stimulus is strong enough, however, as in the case of a pleasing vision or a moving speech, the passive aesthetic *terpsis* becomes a powerful impulse which directs the whole course of action of the psyche. (p. 126)

For the sophists, a beautiful speech is more persuasive than one with the same propositional content stripped of aesthetic qualities. One possible explanation for this observation can be found in excitation transfer theory. According to Zillmann (1971), "[C]ommunication-produced excitation may serve to intensify or 'energize' post-exposure emotional states" (p. 431). Thus, the aesthetic pleasure induced by the speech may help to strengthen the persuasiveness of the speech.

Segal (1962) explains:

> There is, however, the suggestion of greater complexity in Gorgias' conception of *peitho*, that the process is not simply the conquest of a weaker subject by a stronger force, but that the persuaded is himself an accomplice to the act of persuasion, that he *allows* himself to be persuaded, and that persuasion is thus inseparably connected with the emotions aroused by the aesthetic process. (p. 122)

Benson (1989) makes similar arguments concerning the negotiation of audience identity:

> Speakers and writers, acting rhetorically, create not only themselves, but their audiences. That creation is an act of rhetorical being and an invitation to rhetorical being. Listeners and readers engage in rhetorical action of their own—being, knowing, and doing with the speaker and other listeners, accepting or refusing to accept the images offered by the speaker, enacting or declining to enact the role of the public. (p. 320)

But to argue that audience members have control over their persuasion, to say that they have a choice in the matter, is only partially correct—audience members may not be completely responsible for their emotional responses. Later in this essay, I examine research that suggests that physiological responses to aural stimuli also travel through the limbic system, bypassing the "logical" part of the human brain, allowing for unconscious, immediate response. In other words, some elements of rhetoric lie outside the rational and even the conscious, because responses to certain aural stimuli seem "hard-wired" into the experience of being human.

Orality and Rhetorical Theory

Rhetorical scholars have much to learn from other disciplines concerning the ways in which human speech affects individuals. In some ways, rhetorical theory provides the "what" and the "how," but in some instances it is useful to look to other disciplines for a greater understanding of "why." For example, the frequency of sound is an important element of speech. Concerning the tones and sounds of speech, Cicero (1939 version) observed that there are certain elements in speech that are naturally pleasing, and by learning about these we can become more eloquent. He admonishes the speaker to "let art follow the leadership of nature in pleasing the ear" (59). But it is difficult to explain why certain tones are pleasing to the ear. Tsang and Trainor (2002) provide some clues in their study of infant perception of spectral slope.[1] They suggest: "[I]nfants are maximally sensitive to spectral slope differences in the moderately negative region that are contained in speech" (p. 189). From infancy, we are acutely aware of differences in speech tones and timbre.

Voice quality is often overlooked in the practice of rhetorical criticism, but this aural component has rhetorical implications. The author of the *Rhetorica ad Herennium* (1954 version) makes it clear that delivery is important in persuasion:

> That an exceptionally great usefulness resides in delivery I should boldly affirm. For skillful invention, elegant style, the artistic arrangement of the parts comprising the case, and the careful memory of all these will be of no more value without delivery, than delivery alone and independent of these . . . because the mastery of delivery is a very important requisite for speaking, the whole subject, as I believe, deserves serious consideration. (III. XI. 19)

The author then discusses some of the elements of delivery—voice quality (which includes volume, stability, and flexibility) and physical movement (III. XI. 19–20). Gobl and Ní Chasaide (2003) note:

> [D]ifferences in voice quality alone can evoke quite different colourings in an otherwise neutral utterance. [Their results] further suggest that there is no one-to-one mapping between voice quality and affect: individual qualities appear rather to be associated with a constellation of affective states, sometimes related, sometimes less obviously related. (p. 208)

In their study of six-month-old infants, Rock et al. (1999) argue that caregivers do "communicate different messages to their infants through their style of singing and . . . infants generally do show different behavioural reactions to play-song and lullaby styles of singing" (p. 533). Thus, style and vocal quality have an impact on the message.

To understand the power of the spoken word, one must recognize its ability to evoke unconscious, automatic physiological and emotional responses. For example, Aristotle (trans. 1991) explains that when a speaker uses an enthymeme the hearer will supply the missing premise from commonly held opinions (1395b20). Bitzer (1959) writes:

> The aim of rhetorical discourse is persuasion; since rhetorical arguments, or enthymemes, are formed out of premises supplied by the audience, they have the

> virtue of being self persuasive. Owing to the skill of the speaker, *the audience itself helps construct the proofs by which it is persuaded.* (p. 408)

But this principle of rhetorical theory also has a basis in neuroscience; current research suggests that the brain has a natural tendency to fill in missing parts, even in speech. Herrmann et al. (2003) found:

> [T]he missing prosody of a spoken sentence was filled in by the human brain to ease syntactic interpretation. Similar phenomena are well known from the visual domain where humans perceive squares when only fragments of the square are presented, as in case of the Kanizsa square (Herrmann & Bosch, 2001). In that case neurons, which usually detect lines in the visual field, show activity without an actual line being presented in the neuron's receptive field (Grosof, Shapley, & Hawken, 1993). A similar phenomenon seems to be at work when the missing prosody is filled in. (p. 400)

Medical research provides examples of the ability of speech to evoke a physiological response. In their study of trauma center nurse speaking patterns, Proctor, Morse, and Khonsari (1996) found:

> [T]he comfort talk register is prosocial, patient-led, and consists of here and now language that is presented with a restricted range of pitch patterns used to enhance the nurse patient interaction. The simplified structure, controlled intonation, and slower than normal rate causes a sing-song quality. (p. 1676)

Proctor et al. stress that there are limited available topics to speak of, causing the nurses' speaking patterns to form a cyclical structure. They conclude that it is "probable that the utilization of the comfort talk register contributes to the reduction of morbidity and mortality of trauma patients" (p. 1676). Here is a case where speech itself is literally "comparable to the power of drugs over the nature of bodies" (Gorgias, 1972 version, 14). What seems to give speech this somatic power, then, is its melodic quality, the repetition of sounds, and the control of frequency patterns—in short, the same qualities that make speech poetic.

These examples demonstrate a few instances in which research from other disciplines can explain the power of the spoken word and should encourage further inquiry into the aural dimensions of speech. For the remainder of this essay, I wish to examine more closely two specific aspects of rhetorical theory: the roles of *ethos* and *pathos* in persuasion. Black (1965) explains:

> In the *Rhetoric* only logical appeals are regarded as primary, which is to say that they are rhetorically self-sufficient and do not require extralogical supports for their credibility. The other two types of appeal—emotional and personal—while considered potent means of persuasion by Aristotle, are still derivative, and turn on logical support for their force. (p. 117)

The privileged nature of *logos* has continued to the present day; emotional or personal appeals are often considered "cheap shots," a shortcut around the argument rather than an integral part of the argument itself. Even so, it is in the interest of rhetorical scholars to gain a greater understanding of why *ethos* and *pathos* are such

powerful means of persuasion; some of these reasons can be found by looking outside the walls of our own discipline.

Pathos

It is clear that speech has the ability to elicit an emotional response. Quintilian (1921 version) argues, "[Delivery] has an extraordinary powerful effect in oratory" (XI. II. 2), mainly because of its power to invoke an emotional response:

> But eloquence does vary both tone and rhythm, expressing sublime thoughts with elevation, pleasing thoughts with sweetness, and ordinary with gentle utterance, and in every expression of its art is in sympathy with the emotions of which it is the mouthpiece. It is by the raising, lowering or inflexion of the voice that the orator stirs the emotions of his hearers, and the measure, if I may repeat the term, of voice or phrase differs according as we wish to rouse the indignation or pity of the judge. (I. X. 24–25)

But to rouse emotion without direction is fruitless; Berbrier (1997) argues, "Logos and pathos are distinct only in philosophical space; in the social world, inter-subjective agreement is always achieved patho-logically, in cultural space and affective context" (p. 47). Logic and emotion can be intertwined by the skilled rhetor to create a more persuasive discourse. Segal (1962) distills from Gorgias's writings a psychological theory of rhetoric. A core element of this theory is the central role of emotion in the ability to persuade:

> The rhetor, then, aware of the artificial nature of the *logos* as a mere medium, capable of distortion, and aware of the flexibility of human *doxa*, commands a *techne* which can directly touch the psyche through a process of aesthetic and emotional excitation, and hence guide or control human action. Reason is thus ultimately made the master of emotion, but not, as Socrates taught, by completely overpowering it, but rather by channeling and directing emotive energies to preconceived ends. It is now the emotional potentialities of the *logos* which are exploited, and not the intellectual, though the methods of exploitation are still rational. (p. 133)

Emotion is an integral part of speaking because it is an integral part of being human. Fry (1977) argues, "What we fail to realize is that a good deal of the time, whatever our intentions may be, our speech is simply expressing our emotions; this rather than communication has become its main function" (p. 165). But one cannot simply make an emotional appeal and automatically increase the persuasive qualities of one's speech. Cicero (1897 version) explains that the speaker, when trying to elicit an emotion in an audience, must also genuinely feel such emotion: "It is impossible for the listener to feel [emotions] ... unless all those emotions, which the advocate would inspire in the arbitrator, are visibly stamped or rather branded on the advocate himself" (II. XLV. 189). In other words, it is not enough to attempt to elicit an emotional response by displaying emotion—the emotion displayed must be authentic. Aubergé and Cathiard (2003) found that the emotional content of amusement is reflected not only in facial expression, but by prosody, demonstrating

that our brains recognize when amusement is not authentic: "Acted stimuli are not processed in the same way by the subjects" (p. 96). Perhaps Aristotle (1984a version) was correct in asserting, "Spoken sounds are symbols of affections in the soul" (16a4–5).

Emotional appeals seem to derive their power from the body's ability to respond to stimuli of which the individual is not completely aware. This is especially the case when considering aural stimuli. Boothroyd (1986) provides an excellent overview of auditory perception. He explains that throughout the human audible frequency range of 20–20,000 Hz it is possible to detect a change of about 1% and, by comparison, he points out that a "musical step of one semitone, the difference between a white note and an adjacent black note on a piano, represents a frequency change of about 6%" (p. 69). However, a change in amplitude "require[s] a change of 10%, which translates into about 1 dB to be detected" (p. 69). Boothroyd also describes our remarkable ability to distinguish between discrete auditory events:

> We can detect differences of about 10 millionths of a second in the timing of events at the right and left ears. With a single ear we can detect changes of quality resulting from time changes of about 1/1000th of a second, we can detect a brief interruption in sound of the order of a few thousandths of a second, and we can perceive the order of two events if they are separated by only 1/50th of a second. (p. 69)

Meyer, Steinhauer, Alter, Friederici, and von Cramon (2004) explain exactly what is involved in decoding spoken language:

> Comprehending spoken language includes the decoding of information from differing linguistic domains, e.g., semantics of words, thematic and structural relations, as well as from nonlinguistic and linguistic acoustical cues, commonly referred to as prosody. Prosody describes abstract phonological phenomena such as word stress, sentence accent, and phrasing and refers also to the phonetic attributes used to encode these abstract structures, i.e., intonation, amplitude, duration, etc. (p. 277)

Lieberman and Blumstein (1988) argue that "anatomical and neural mechanisms probably evolved to enhance human linguistic ability" (p. 205). To illustrate this, they point out that human speech "allows us to transmit phonetic 'segments' at a rate of up to 25 segments per second. In contrast, it is impossible to identify other non-speech data at rates that exceed 7–9 items per second" (p. 205). Although the human ear is able to discern such fine distinctions in sound, Lieberman and Blumstein explain that recognition of change is not the same as comprehension (p. 205). Weaver (1972) suggests that events "of which the observer never becomes consciously aware may still influence his thoughts and actions" (p. 36). In other words, changes take place and although one may perceive these changes, one may be unaware of them, even as one's body responds to them.

Hearing a certain sound is enough to invoke a physical response because auditory response is something that involves not only cognition, but also the limbic system. Goleman (1995) explains that one component of the limbic system, the amygdala, acts as a sort of "emergency switch," causing us to spring into action even before we realize the nature of the danger (pp. 22–26). In an evolutionary sense, it is

understandable that aural stimuli would travel through this brain structure because anything that we hear may be a threat. Morris, Scott, and Dolan (1999) observe:

> The anterior insula, which selectively increased its activity during fearful voice presentation, exhibited a fear-specific inhibitory interaction with the right amygdala. Although these data are suggestive of functional interactions between amygdala and insula, further investigation is required to determine the nature of the mechanisms involved. (p. 1161)

Further illustrating the complexity of language processing, Meyer et al. (2004) found that different parts of the brain deal with different kinds of speech (normal, monotone, and degraded, which is similar to listening behind a door): "The different conditions produced differential activation patterns pointing to distinct brain regions which may subserve differential aspects of speech processing" (p. 283).

Not only sound, but also paralinguistic data, can elicit a physiological response. Nwe et al. (2003) explain that message content is only part of the communication:

> There are two broad types of information in speech. The semantic part of the speech carries linguistic information insofar that the utterances are made according to the rules of pronunciation of the language. Paralinguistic information, on the other hand, refers to the implicit messages such as the emotional state of the speaker. For speech emotion recognition, the identification of the paralinguistic features that represent the emotional state of the speaker is an important first step. (p. 605)

Morris et al. (1999) observed that paralinguistic data have physiological effects on listeners:

> Several subjects, during post-scan debriefing, spontaneously reported that the fearful voices were 'startling.' One of the best studied phenomena in fear processing, the acoustic startle reflex, is mediated by a pathway in the brainstem involving the ventral cochlear nucleus, ventral nucleus of lateral lemniscus and the nucleus reticularis pontis caudalis (NRPC). . . . Our data imply that brain regions involved in acoustic startle interact with systems mediating auditory affective processing, providing evidence, therefore, of functional integration across different neural networks. (p. 1161)

They go on to explain that their data "suggest that processing of emotional vocalizations requires not only functional specialization, e.g. selective amygdala and insula responses to fearful voices, but also the integration of neural activity across left and right hemispheres and the brainstem" (p. 1162).

The power of emotional response lies in the fact that the hearer need not have any emotional connection to the speaker. Sander et al. (2003) found that hearing laughter or crying triggered amygdala response regardless of whether the subject was emotionally involved with the person crying or laughing. In other words, this response bypasses the "logical" part of our brain. One could argue that this form of eliciting a response from an audience is arhetorical because there is no need for intentionality on the part of the speaker—the rhetor is simply eliciting a reflex response. However, recognizing that such a response is indeed a reflex is to know "an available means of persuasion" (Aristotle, trans. 1991, 1355b27–28).

Ethos

Emotion is not all that is communicated through spoken language. For Aristotle, delivery and *ethos* seem tied together. Perhaps this is one reason why he takes a rather dim view of delivery in the *Rhetoric*, stating that it "seems a vulgar matter when rightly understood. But since the whole business of rhetoric is with opinion, one should pay attention to delivery, not because it is right, but because it is necessary" (Aristotle, trans. 1991, 1404a1). Later in the passage, he adds: "[Delivery] has great power, as has been said, because of the corruption of the audience" (1404a5).[2] This is a sort of backhanded compliment for delivery, acknowledging the power of delivery while remaining suspicious of that power. Perhaps some clarification of his view can be found early in *de Interpretatione*: "Spoken sounds are symbols of affections in the soul, and written marks symbols of spoken sounds" (Aristotle, 1984a version, 16a4–5). While this seems a bit out of place in what becomes a discussion of grammar, it provides a sense of how Aristotle views the spoken word. In this light, it makes sense that delivery is downplayed—to disguise speech through altering delivery is to misrepresent one's soul.

But it may be more difficult to misrepresent one's soul than one may think. Brennan and Williams (1995) found that listeners are attuned to verbal cues that reveal whether or not a person truly knows what he or she is talking about. They explain that while speakers "search memory and monitor their search, they also display their metacognitive states" (p. 396). They found that listeners are aware of this display:

> A listener's FOAK [feeling of another's knowing], based on a speaker's display of confidence in or commitment to an answer, was affected by the intonation of answers, the form of nonanswers, the latency to response, and the presence of fillers. . . . That listeners are sensitive to filled vs. unfilled pauses shows that paralinguistic displays can be used to estimate other people's knowledge. (pp. 396–397)

These findings seem consistent with Aristotle's (1984b version) view that *ethos* is something created during speech rather than simply a reflection of reputation:

> Persuasion is achieved by the speaker's personal character when the speech is so spoken as to make us think him credible. . . . This kind of persuasion, like the others, should be achieved by what the speaker says, not by what people think of his character before he begins to speak. (1356a4–11)

Although listeners may recognize when a speaker understands what he or she is speaking about, to detect deception accurately is another matter. In their study of police officers' ability to detect deception, Mann, Vrij, and Bull (2004) found:

> [T]ruth accuracy and lie accuracy were both around 65% in this study, which was higher than was found in most previous deception detection studies. It is also the highest accuracy rate ever found for a group of "ordinary" police officers. The accuracy rates found in this sample of ordinary police officers were comparable to those found among specialized groups of lie detectors in previous studies (Ekman & O'Sullivan, 1991; Ekman et al., 1999). (p. 144)

But to put this in perspective, one could expect a 50% accuracy rating by chance alone (see DePaulo et al., 2003; Mann et al., 2004, p. 137).

Despite human limitations, listeners are attuned to the issue of *ethos* and it is important to note that *ethos* is something both constructed by the speaker and granted by each member of the audience. Benson's (1989) description of the transactional nature of audience and speaker identification sheds light on this issue. Benson describes a rally that took place during the Vietnam War in which university students protested against the weapons research being done on campus. Three speakers attempted to disperse the crowd, but Benson notes that the speeches "were all directed to a similar end, but the first two were dangerous failures and the third an immediate if ambiguous success" (pp. 302–303). The difference was threefold: how each rhetor defined himself, how he defined the crowd, and how the crowd defined him. In the case of the successful speaker, Benson explains that it was not only the speaker's credentials as a well known anti-war activist, but also the way that the speaker defined the audience and himself through the speech that contributed to its rhetorical strength (pp. 313–318). In other words, there is an element of *ethos* that is always subject to approval by audience members, regardless of the speaker's rhetorical skill.

Aural components of speech may affect *ethos* regardless of content. For example, if the vocal quality is unpleasant, the listener may disregard what the speaker is saying due to discomfort or annoyance. Fastl (2000) suggests, "[I]n addition to loudness, hearing sensations such as sharpness, fluctuation strength, or roughness may contribute to the psychoacoustic annoyance (Zwicker 1991, Zwicker 1989, Widmann 1993, Widmann 1994)" (p. 261). Aristotle (1984b version) states that the "right thing in speaking really is that we should be satisfied not to annoy our hearers without trying to delight them" (1404a4–5). Earlier in the *Rhetoric*, Aristotle explains how this is to be done:

> It is, essentially, a matter of the right management of the voice to express the various emotions—of speaking loudly, softly, or between the two; of high, low, or intermediate pitch; of the various rhythms that suit various subjects. These are the three things—volume of sound, modulation of pitch, and rhythm—that a speaker bears in mind. (1403b28–32)

Ignoring the role of tone in one's speech may have heavy consequences for the speaker. In a study examining the relationship between speech tone and history of malpractice suits, Ambady et al. (2002) found:

> [B]oth for general and orthopedic surgeons, those who were judged to be more dominant were more likely to have been sued than those who sounded less dominant. . . . Voice tone alone, judged from mere 40-second slices of speech, can distinguish between claims and no-claims surgeons. (p. 8)

The *ethos* that is constructed in a speech is a result of more than the propositional content or aural dimensions of the speech. At least in a non-mediated speaking situation, the speaker is more than a voice—rather, he or she is a presence, and how that presence is used shapes the audience perception of the speaker. Glascock and

Ruggiero (2006) found that nonverbal immediacy, described as "smiling, gesturing, and vocal variability," had "relatively strong, positive correlations with all three dimensions [competence, trustworthiness, and caring] of teacher credibility" (pp. 200, 204). The physical presence of the speaker also has implications for the aural dimensions of the speaker's message. Moore (1997) explains that the "movements of a speaker's face and lips can have a strong influence on our perception of speech signals; what we hear is influenced by what we see" (p. 292). Moreover, in a speaking situation, listeners make credibility judgments based on both visual and aural cues. Swerts and Krahmer (2005) added a visual dimension to Brennan and Williams' (1995) findings: "FOAK [feeling of another's knowing] judgments are significantly more accurate in the bimodal (Vision + Sound) condition than in the respective unimodal ones. This indicates that the presence of visual information is actually beneficial for FOAK judges" (p. 92). Even so, Swerts and Krahmer found that the aural component is significant: "If we compare the results for the Sound only and the Vision only experiment, it appears that overall subjects made better use of auditory than of visual cues for the perception of uncertainty" (p. 92).

This has been only a brief overview of how scholarship from other disciplines can inform our understanding of *ethos* and *pathos*. Far from being only rhetorical constructs, the power of *ethos* and *pathos* appeals seem to have a physiological basis. Human beings have some ability to determine whether or not speakers are knowledgeable based on prosodic cues and how the speaker responds. There are limits to our ability to detect deception, but our ability to make judgments of another's knowing illustrates an important element of the construction of *ethos*—that *ethos* is something constructed through speaking rather than simply reputation. Vocal quality plays a part in both *ethos* and *pathos* appeals. Perhaps most important for rhetorical scholars is the conception of *pathos* appeals as working in a realm beyond that of the conscious. That authentic emotional display immediately affects people in both psychological and physiological ways, regardless of emotional involvement with the speaker, helps to explain the power of emotional appeals. Moreover, it calls into question the agency often ascribed to audience members and their ability to make decisions based on the argument, because the body is able to make an empathetic decision before the brain can make a logical decision. All of these findings demonstrate how speech affects not only the mind, but also the body.

Conclusion

In this essay, I have examined scholarship both within the discipline of communication and beyond to demonstrate the utility of scaling our disciplinary walls and examining that which lies beyond. Because speech is an integral part of human life, it should come as no surprise that many scholars outside our discipline are also concerned with how the voice affects human behavior, thought, emotion, and action. Waddell (1990) calls for a greater understanding of the "intimate connections between sciences and the humanities in modern life" (p. 396). My aim has been to

add to this line of research by bringing together scholarship in both the humanities and the sciences in order to help bridge the gap between rhetoricians and scientists.

The sciences are making strides toward explaining how the brain operates and responds in different ways to particular frequencies, rhythms, stresses, and pauses in speech—but they are still far from providing a complete explanation for the way that the brain processes speech. Scientific evidence confirms that speech truly is a powerful lord and can, in some cases, literally act upon the body as a drug. The humanistic tradition provides a more broad understanding of how speech operates in individuals and in society as a whole. Not only is there a physical power inherent in speech, but also a semi-magical power. By examining artifacts such as ritual and poetry, that often escape examination by scientists, humanists can help to explain some of the ways in which people have used speech to entrance and move others emotionally, physically, and spiritually. We recognize that elements such as alliteration, repetition, formulaic construction, epithets, and vocal range and quality contribute to the entrancing power of speech. Moore (1997) explains:

> At the physiological level we now know a good deal about the coding of sounds in the auditory nerve and the cochlear nucleus, but relatively little is known of how the basic neural information is processed at higher levels in the auditory system. At the perceptual level we know a good deal about people's abilities to detect changes in simple stimuli such as pure tones and bands of noise, but we are a long way from understanding how complex auditory patterns such as speech and music are perceived. (p. 329)

The missing part of the equation—how speech is perceived—seems to fall squarely into the hands of the humanistic tradition because our understanding of the perception of discrete auditory phenomena is incomplete without an understanding of how such phenomena are socially constructed. Berger and Luckmann (1966) explain:

> Man is biologically predestined to construct and to inhabit a world with others. . . . In the dialectic between nature and the socially constructed world the human organism itself is transformed. In this same dialectic man produces reality and thereby produces himself. (p. 183)

This construction of reality is the realm of rhetoric.

My secondary aim in this essay has been to re-establish the continuing relevance of the Ancients to the quest for a greater understanding of the power of human speech. It is clear that Gorgias, Aristotle, Isocrates, Cicero, and Quintilian recognized the power of the spoken word and its importance in persuasive discourse. They understood that the message could not simply be reduced to propositional content, but that the hearer was also affected by the way in which it was expressed. These two factors could be combined to determine the eloquence of a particular orator in a particular situation. The Ancients recognized such issues as authenticity in the beliefs and emotions of the speaker, the importance of *ethos*, and the entrancing power of a powerful speaker. Their understanding came from practice and observation rather than statistical analysis. One does not need neuroscience to understand that hearing

someone cry elicits an emotional response in the hearer. Empathy is one quality that makes us human. One needs only to observe and to be aware of one's own reactions. Perhaps this is what scholars in the humanities have to offer in the search for the sources of the power of speech—the ability to look not only into others, but into ourselves as well.

The aural qualities of speech are powerful elements of persuasion. By incorporating elements of the poetic—repetition, formulaic construction, and vocal range and quality—a speaker can entrance the listener and increase the potential for persuasion both through the construction of *ethos* and through the skillful inducement of emotion. The Ancients remind us that *pistis* and *terpsis* form a potent combination, which can be demonstrated by both humanistic scholarship on oral cultures and scientific scholarship on how the mind and body process speech. Humanistic scholarship can be brought together with scientific inquiry to enable a greater understanding of the aural dimensions of persuasion. Fry (1977) points out that the "power of speech places no barriers to the progress of man except those of his own erecting" (p. 169). The barrier between the humanities and the sciences has been in place for far too long. Understanding how and why speech affects us is important to anyone who studies what it means to be human, whether that involves how we function physically, emotionally, or spiritually. The humanities and the sciences need not operate in isolation from each other.

Notes

[1] Tsang and Trainor (2002) explain that spectral slope is "the linear component of the spectral envelope," whereas spectral envelope is defined as "the curve that connects the points representing the amplitudes of the frequency components in a tonal complex" (pp. 183–184).

[2] μοχκηρίαν, translated here as "corruption," can be used in two ways according to Liddell and Scott's *Greek–English Lexicon*. Generally, it translates to "bad condition," specifically "of a person, *lack of skill, incapacity*." Another possibility given is "mostly in a moral sense, *wickedness, depravity.*" Thus, it could be that Aristotle is simply explaining the situation in which the rhetor must operate—the masses cannot follow the intricacies of dialectic, hence the assessment of delivery as "vulgar." I lean toward the latter translation—that of a poor moral condition. Other places in the *Rhetoric* support this view. For example, when we see the term used in 1374a10, the context is a discussion of an "unjust and wicked" person (trans. 1991). See also 1378a6 and 1368b4. Regardless of the translation, it seems obvious here that Aristotle places delivery on a much lower plane than many of the other Ancients.

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