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A Neurorhetoric of Incongruity

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Abstract: As a conceptual resource for rhetoric, contemporary neuroscience has considerable potential. Yet how exactly rhetoricians should deploy it as such requires careful consideration. While some engage neuroscience in a foundationalist fashion, using it to ground rhetoric in empirically tested claims, I make the case for a non-foundationalist approach, arguing that neuroscience can serve as a resource for rhetoric on the basis of epistemologies that value the speculative, indeterminate, and contingent. That is, we can use neuroscience to achieve perspective rather than proof and continued conversation rather than resolution. More specifically, I suggest placing neuroscience in incongruous contact with rhetoric, using it to achieve Burkean perspective by incongruity. I then do so in an extended example that puts Antonio Damasio's somatic marker hypothesis in incongruous contact with ancient accounts of *eikos*, thereby offering a fresh angle from which to view enduring discussions anew.

Keywords: neurorhetorics, epistemology, Kenneth Burke, perspective by incongruity, somatic marker hypothesis, *eikos*

By now, to say that neuroscientific research has proliferated in recent years and that the media has responded by devoting considerable attention to its findings is to utter a truism. Reports of neuroscientific findings regularly appear in newspapers, magazines, and television programs and circulate via blogs and across social media platforms. The reason for its popularity, it would appear, lies in part in neuroscience's ability to tell us about so much more than brain function. In providing insight into the cognitive apparatus, neuroscience would seem to have implications for many, if not all, spheres of human affairs; indeed as an explanatory resource, it has been said to have a seductive allure (Weisberg *et al.*, 2008). In the academy, this has led to the emergence of various neuro-subfields, such as neuroeconomics, neurolaw, neuroaesthetics, neuroethics, and so forth, each of which uses neuroscience as a resource with

which to develop accounts of disciplinary matters. Some scholars suggest that the pervasiveness of neuroscientific accounts has resulted in a now-dominant neuroculture, characterized by the belief in the brain as the originary site of all human activity (Ortega and Vidal, 2011).

It was perhaps inevitable, therefore, that contemporary neuroscience would find its way to rhetoric, not only as a site for analysis (eg. Condit, 1996; Gibbons, 2007; Graham, 2009; Johnson, 2008), but also as a conceptual resource (eg. Davis, 2008; Fahnstock, 2005; Lunceford, 2007; Pruchnic, 2008). Even in 1990, it was already possible for Jeffrey Walker to observe that, “Periodically in recent years, neurological research has been invoked as an emerging and important source of knowledge for the rhetorician” (Walker, 1990, 301; for example, see Gregg, 1984). Of course, using neuroscience to gain insight into rhetorical processes is not to do something unprecedented. Rhetoricians have long drawn upon psychological theories. However, compared to the rest of the cognitive sciences, contemporary neuroscience tends to be more determinedly focused on the biological systems that underlie cognition and more technologically complex, often employing neuroimaging scans, single neuron studies, and electroencephalographic recordings, to name just a few examples. Any attempt, then, to bring neuroscience’s high-tech and complex brain research into rhetorical purview throws matters of disciplinarity into sharp relief.

Scholars across the academy have explored neuroscience’s relationships to their respective disciplines (Stafford, 2011; Littlefield and Johnson, 2012). Rhetoricians, for their part, have grappled with the specific questions that arise when bringing neuroscience to rhetoric (Jack and Applebaum, 2010; Mays and Jung, 2012; Gruber *et al.*, 2011). Jordynn Jack and Gregory Applebaum usefully termed the entire endeavor “neurorhetorics,” identifying the rhetorical analysis of neuroscientific discourses as “the rhetoric of neuroscience” while referring to the use of neuroscience research to derive insights into rhetorical processes “the neuroscience of rhetoric.” This paper is exclusively concerned with the latter, not because the approaches are not interconnected in important ways, but because they ultimately involve distinct attendant concerns. As site for analysis, neuroscience raises the type of concerns that rhetoricians of science must address when they analyze any set of scientific practices and/or artifacts. As a conceptual resource, on the other hand, neuroscience raises epistemological

questions about the nature of rhetorical theory itself. In this paper, I argue for a style of neurorhetorical engagement decisively aligned with rhetoric's non-foundational tradition, an approach invested in enriching perspective rather than universal truth and continued conversation rather than resolution. Specifically, I make the case for a Burkean-inspired neurorhetorics that employs perspective by incongruity toward the ends of insight. After a brief overview of rhetoric's epistemological tradition and neurorhetorics thus far, I explain how we might engage with neuroscience in this way, ending with an extended example that uses neuroscience to achieve Burkean perspective by incongruity on ancient discussions of *eikos*.

Rhetorical Epistemologies and Neurorhetorics Thus Far

From its inception, both foundationalist and non-foundationalist epistemological impulses have motivated the rhetorical field. As the prevailing epistemological bent in the Western intellectual tradition, foundationalist epistemologies that posit knowledge as universally valid and objective information about the world as it really is have variously guided the field, troubled it, and served as its productive foil. Plato's critique of rhetoric as a lowly art arose out of his foundationalist philosophy. In the twentieth century, advocates of a positivistic rhetoric have, at times, attempted to push the field toward empirical verification as ultimate goal and/or toward adopting scientific or social scientific methodologies (Becker, 1969; Bowers, 1999; Simons, 1978). In a 1968 work, John Waite Bowers described rhetoric's proper role as pre-scientific suggesting that, "the rhetorical critic's principal task is to produce testable hypotheses which, when verified, will have the status of scientific laws" (Bowers, 1968, 127). But perhaps most often, the influence is even more indirect than even that. William Nothstine, Carole Blair, and Gary Copeland made the case that in the latter half of the twentieth century, scientific ideals subtly infiltrated the discipline, and that one can find evidence of them in the discipline-wide emphasis on rhetoric's explanatory function as well as its concern for generalizability, objectivity, testability, and progress (Nothstine *et al.*, 1994, 36; see also Brummett, 1984, 97-98; Farrell, 1980, 300, Zarefsky, 2008, 637).

But forays into foundationalism notwithstanding, rhetoric has also resisted dominant foundationalist ideologies. A robust

and enduring non-foundationalist impulse characterizes the field. For one, scholars in rhetoric have done a good deal to disclose science's rhetorical dimensions (Lyne and Howe, 1986; Gross, 1996; Taylor, 1996). Moreover, within the discipline, a positivistic approach to rhetoric is not particularly influential and many rhetorical scholars are skeptical of any call to make rhetoric like the social sciences (see Lyne, 1985, 73; Bowers, 1999, 46; Farrell, 1980, 300; Gehrke, 2009, 71-72; Nothstine *et al.*, 1994, 50-51). Perhaps more importantly, rhetoric's assertions of non-foundationalism are constructive articulations, valuations of ways of engaging with the world that strive for something other than absolute certainty.¹ The Sophists, of course, embraced opinion and appearance as vital forms of knowing (Consigny, 1996). Discussions of rhetoric as technic, epistemic, aesthetic, pragmatic and/or hermeneutic articulate non-foundational conceptions of rhetoric that emphasize doing, being, and understanding, among other things (see Atwill, 2009; Scott, 1967; Carleton, 1985; Cherwitz and Hikins, 1983; Poulakos, 1983, Whitson and Poulakos, 1993; Farrell, 1976; Hyde and Smith, 1979; Schräg, 1985; Danisch, 2007; Horne, 1989).

Moreover, much rhetorical scholarship proceeds by a largely informal and implicit nonfoundationalism, with practitioners assuming what some have described as the role of "the critic-artist." While the "critic-scientist" aims to control variables, operationalize terms, and so forth, the critic-artist is "functioning artistically: immersing himself in the particulars of his object of study, searching for the distinctive, illumining with metaphor the rhetorical transaction" (Sloan *et al.*, 1971, 223). Barry Brummett similarly regards rhetorical theories not as objective or predictive statements about the world but as "a form, pattern, or recipe, a statement in the abstract" that "teach[es] people how to experience their rhetorical

¹ In this context, the term "epistemology" may be somewhat contentious. The term has close ties to objectivist and positivistic models of knowledge, and many who want it loosed from those ties distance themselves from it (Whitson and Poulakos, 1993; Rorty, 1979), though not all do (Hyde and Smith, 1979; Carleton, 1985). Yet, though it is loaded term, it is nonetheless an expedient one for collectively identifying theorizations of how we come to know the world. So while I use the term "epistemology," I do so ecumenically, including within its purview forms of understanding, appreciating, enriching, and even complicating that do not strive toward foundations of certainty and would not fit within a certain traditional epistemological model.

environments more richly” (Brummett, 1984, 103). Consequently, as Brummett has pithily remarked, instead of being held to standards of falsifiability, “rhetorical theories are like vampires: you need to see one in action only once to believe in what it can do, and it is nearly impossible to kill” (Brummett, 1984, 99; see also Black, 1980, 333). In doing so, rhetorical theories generate conversation – including the conversations of rhetorical criticism, providing prompts, provocations, turning points, and tangents, giving us something to talk about and keeping the discussion going (Burke, 1973, 110- 111). In a hermeneutic sense, this conversation is sense-making; through it, we arrive at insights and understandings. As Richard Rorty describes it, “This hope is not a hope for the discovery of antecedently existing common ground, but *simply* hope for agreement, or, at least, exciting and fruitful disagreement,” and ultimately of “finding a new and more interesting way of expressing ourselves, and thus of coping with the world” (Rorty, 1979, 318, 359). This conversation can include, jostling against each other, the poetic, the satirical, and the parodic, together with the rational and scientific.

A key question for conceptual neuroretorics, then, is how to bring rhetoric into conversation with a discipline so decisively foundationalist as neuroscience. Perhaps the most straightforward approach is to hew to the foundationalist line to some degree or another. One brings neuroscience to bear in an authorizing fashion, using it to ground rhetoric, make it more real, give it a basis, or shatter something already believed about it (Fahnestock, 2005, 175, 174; Lunceford, 2007, 91; Davis, 2008, 131).² Scientizing rhetoric in this way forefronts foundationalist commitments, making the empirical strength of neuroscientific claims the bedrock on which we accept or reject rhetorical claims. Thus alongside such work come appeals for caution, for greater understanding and scrutiny of the neuroscientific work one brings to rhetoric, calls for rhetoricians to hold themselves responsible for not only understanding the neuroscientific claim, but also the processes by which it is established and/or bids for increasing collaboration between rhetoricians and neuroscientists, thus promoting rigor and guarding against the careless use of science (Rose, 1988;

² Granted these are relatively minor moves in longer, more nuanced work. Jeanne Fahnestock, for example, is clear that rhetoricians should not model themselves on cognitive neuroscientists and Diane Davis uses hedging phrases, such as “can be read as” and “purportedly” (Fahnestock, 2005, 175; Davis, 2008, 131).

Brueggemann, 1989; Jack and Appelbaum, 2010; Mays and Jung, 2012, 47; Gruber *et al.*, 2011).

A non-foundationalist impulse certainly underlies some such arguments for caution, particularly those that draw attention to neuroscience's rhetoricity, highlighting its indeterminacy and epistemological uncertainty, thereby critically unpacking it (Mays and Jung, 2012; Jack, 2010). This paper's non-foundationalism, however, is less analytical and more inventional (Gruber, 2016). It considers what we can do with neuroscience, how we can use it productively, as perspective, particularly by putting it in speculative, contingent, and indeterminate conversation with rhetoric.

A Neurorhetoric of Incongruous Perspective

Interdisciplinary engagements often aim toward integration, seeking the synthesis of disciplinary claims and theories in some form or another (Klein, 1990). But, disciplines can engage aiming for other than synthesis and integration, as in a neurorhetoric of incongruity. This strategy is inspired by Kenneth Burke's "perspective by incongruity," a critical method in which one defies conventional pieties about what goes with what, forcing a juxtaposition of the discomfitingly incongruous. Burke emphasizes terminological incongruities; as he explains, one employs perspective by incongruity when one takes "a word [that] belongs by custom to a certain category" and then purposefully "wrench[es] it loose and metaphorically appl[ies] it to a different category," engaging in what he also calls "verbal 'atom cracking'" (Burke, 1984a, 308). But the approach is applicable beyond the semantic level and one might also bring about the atom-cracking collision of ideas, ideologies, or images (Rosteck and Leff, 1989, 331; Demo, 2000, 134). The approach to neurorhetorics I recommend is conceptual, entailing the planned incongruous collision of rhetorical and neuroscientific claims.

Perspective by incongruity is simultaneously disruptive and productive. The collision of perspectives it brings about often prompts the reexamination of taken-for-granted beliefs. One can compare it to consciousness-raising in that it "de-naturalizes a given set of meanings or values and questions their adequacy for explaining or directing experience" (Dow, 1994, 229). But it does so while also inviting the constructive acts of "comparison, re-classification, and renaming" that can "supplant a traditional view of a situation with a new and restructured one" (Dow, 1994, 229; Foss, 1979, 11). That is, in

unsettling established modes of thought, it can enable new ones to emerge, thereby serving as a catalyst for change. As a result, it is often strategically employed by those engaged in advocacy, who seek redefinition, reclassification and renaming of established orders (Dow, 1994, 229; Demo, 2000). But perspective by incongruity need not be employed toward overturning an existing order, and its reexaminations and reorientations can yield a better understanding of it as well.

As James Jasinski observes, rhetorical scholars have largely employed perspective by incongruity in one of two ways, (1) as a critical heuristic; analyzing a text from an unexpected or atypical perspective (Jasinski, 2001, 434; see Stelzner, 1971; Gregg and Hauser, 1973) or (2) as a rhetorical strategy one discerns in texts under analysis (Jasinski, 2001, 434; see Demo, 2000; Dow, 1994). While either is viable for neurorhetoric (particularly the former), this paper takes a third tack, using perspective by incongruity as a resource for theoretical reflection.³ Incongruously placing neuroscientific claims alongside ancient rhetorical theories enables unexpected and potentially enlightening conjunctions and disjunctions to emerge. In doing so, this paper aims neither for integration nor resolution, but for an enriched perspective on rhetorical theory and history, with potentially new directions for discussion.

Importantly, in a neurorhetoric of incongruity, we can bracket the sorts of empirical and methodological debates in the neurosciences that often become the fraught focal point of other neurorhetorical engagements. Because a neurorhetoric of incongruity is inventional rather than justificatory, it avoids harnessing rhetorical claims to the empirical success or failure of neuroscientific ones. We can mindfully put these debates aside. There is a certain deviance in doing so, to be sure, yet one thoroughly in line with Burke's strategies of incongruity, whereby one might also "writ[e] a history of medicine by a careful study of the quacks" or "deliberately [discard] available data in the interests of a fresh point of view" (Burke, 1984b, 120-121). Moreover, engaging with neuroscience in this manner does not eliminate accountability. As John Lyne has written, "Any speech act should be accountable to the world in which it is introduced" and a neurorhetoric of incongruity is subject to various non-foundational accountabilities (Lyne, 1985, 70). Rhetoric itself is one such type; arguments establish robustness

³ This is not unrelated to the approach Debra Hawhee elaborates in "Historiography by Incongruity" (Hawhee, 2013).

and reveal weakness (Lyne, 1985, 70). Consensus is another, and in the field “the ‘validity’ of knowledge and truth clearly hinges on the presence or absence of a rhetorically created consensus among a community of significant others” (Bineham, 1990, 53; see also Carleton, 1985; Farrell, 1976; Brummett, 1976). In a neurorhetoric of incongruity, perspectives are evaluated in the course of scholarly argument and by their reception within the academic community; do others accept them or reject them, propagate them or leave them to shrivel unattended (*i.e.* unpublished or uncited).

To illustrate the approach in greater detail, I provide an extended example of how one might use neuroscience in this fashion.

Neuroscience as Incongruous Perspective on the Rhetorical Probable

The Somatic Marker Hypothesis

One area of neuroscientific inquiry with potential to enrich and enlighten rhetorical matters is embodied cognition. Already a highly interdisciplinary research field, it includes contributions by philosophers, artificial intelligence researchers, and linguists, among others (Edelman, 1989; Lakoff and Johnson, 1980; Johnson, 1987; Gallagher, 2006). A particularly promising strain of that work, sometimes called “affective neuroscience,” addresses the neurological underpinnings of emotion, extending an even longer line of research on the embodiment of emotion (Damasio, 1994; LeDoux, 1996; see also, James, 1894). I focus on one small slice of that work here, the somatic marker hypothesis, placing it alongside ancient views on *eikos*, or that which is/seems likely to be the case.⁴ Given that this example serves as a relatively brief illustration within a much broader discussion, my account will be necessarily somewhat cursory and its returns modest. Rather than a comprehensive study, I simply hope to demonstrate something of the potential of an atom-cracking neurorhetoric of incongruity.

⁴ Although it is often translated as “the probable,” that rendering is problematic given that “*eikos*” does not refer to probability in the mathematical sense; “likelihood” is a more faithful translation (See Hoffman, 2008, 4; Walton, 2001, 94). For a detailed semantic history of the term “*eikos*,” see Hoffman (Hoffman, 2008).

The somatic marker hypothesis theorizes emotion's place in decision-making processes. Both controversial and influential, it is most closely associated with Antonio Damasio, who has written of it in both major science journals and in popularizations, including the widely read *Descartes' Error*. By my distillation, which draws from Damasio's work, the somatic marker hypothesis posits the ventromedial prefrontal cortex as the neurological seat of a system by which emotion influences decision-making. During the process of decision-making, a person's body undergoes an emotional response, which constitutes a crude set of biasing signals that mark various options as favorable or unfavorable. This response is largely determined by prior experience and is followed by conscious reasoning and reflection, which can ultimately override it. As a crude preliminary biasing step, the somatic marker system serves a broad and pervasive function in decision-making and is essential to behaving advantageously in the complex and uncertain social situations that abound in everyday life. Notably, people with brain damage to the ventromedial prefrontal cortex tend to make poor social decisions, despite the fact that their intelligence generally remains intact (see Damasio, 1994; Damasio, 1996; Bechara and Damasio, 2005; Bechara *et al.*, 1994; Bechara *et al.*, 1997).

Any account of the somatic marker hypothesis is complicated by the existence of a veritable morass of associated literature. Today, scholarship on the subject includes legions of studies, which offer support for the theory, call it into question, or consider its implications. Many focus on the paradigmatic experiment that provides the key psychophysiological support for the hypothesis, reinterpreting the original results, applying it to different clinical groups, or employing it in somewhat altered form, for example. Some research addresses the proposed neural substrate, including lesion, brain imaging, and pharmacological studies, while still other work tackles the hypothesis's theoretical presuppositions (for reviews of the literature, see Dunn *et al.*, 2006; Linquist and Bartol, 2013; Reimann and Bechara, 2010). The approach I recommend cuts through the mire: one consciously (and conscientiously) brackets much neuroscientific wrangling while distilling a version of the hypothesis, which one asserts as a rhetorically useful perspective.

In a neurorhetoric of incongruity, one can draw on empirical studies as illustrative, such as the one Damasio and his colleagues developed to assess decision-making. The

experiment, known as the Iowa Gambling Task, provides an excellent illustration of the somatic marker hypothesis. It consists of a card game designed to mirror the uncertainty of social situations, one in which participants accrue money while choosing from decks of cards, which come with variable rewards and penalties discovered only through the course of the experiment. In Damasio's research, subjects with damage to the ventromedial prefrontal cortex displayed compelling differences in performance compared to neurotypicals. Early in the game, brain-intact participants began to avoid decks in which penalties were greater than rewards, and to exhibit autonomic arousal (as measured by skin conductance) when selecting from "bad" decks, as if in anticipation of punishment. However, when asked about the game, at first participants had no idea what was happening and had developed no strategy. Over time, the majority of neurotypicals eventually formed a conscious and explicit idea of why certain decks were better or worse than others. Meanwhile, brain-damaged participants did not tend to avoid the "bad" decks and did not exhibit autonomic arousal when choosing from them early in the game. Most remarkably, even the three impaired participants who could eventually explain which decks were better still did not make the most advantageous choices (Damasio, 1994; Damasio, 1996).

Researchers ultimately proposed that neurotypical participants engaged two distinct but parallel and interacting systems while playing the game. One is the level of the somatic marker, the non-declarative dispositional knowledge related to an individual's emotional experience of a given situation, which developed throughout the game. The other is the level of overt reasoning, in which participants consciously reasoned about the process. So, the researchers explained, the somatic marker guides behavior before conscious knowledge does, enabling neurotypical participants to choose advantageously before even realizing why or how they did so (Bechara *et al.*, 1997). In other words, somatic marker hypothesis research suggests that contrary to popular opinion, we are not at our decision-making best in the absence of emotion, and emotion-mediated hunches about what is likely to happen are invaluable.

The Somatic Marker as Perspective

The somatic marker hypothesis might conceivably provide insight into many different rhetorical matters, including *phronesis*, embodiment and bodily rhetorics, and rhetoric's relationship with emotion (see Oakley, 1999; Gross, 2006). Out

of many possibilities, I put the somatic marker hypothesis in conversation with rhetorical perspectives on likelihood, in part because of the incongruousness of putting a neuroscientific theory that points to the wet stuff of individual neural architecture in conversation with the speculations of ancient Greek rhetoricians. Moreover, *eikos* is in some ways a less obvious choice than other possibilities, enhancing the sense of impropriety. By compelling us to pay attention to the conjunctions and disjunctions that emerge, juxtaposing the ancients' views on *eikos* with the somatic marker hypothesis immerses us "in the particulars of [the] object of study," thereby constituting the act of the critic-artist (Sloan *et al.*, 1971, 223). In turning a novel lens to the particulars of the ancients' positions, it also has the potential to discover delightful and controversial surprises, which may disrupt some established lines of thinking, or at least provide productive reorientations and reexaminations of them.

In this paper, somatic markers enable incongruous reorientations to and reexaminations of ancient deliberations regarding rhetoric's proper subject matter, offering new perspectives on some well-trodden discussions. Ancient discussions of rhetoric's subject often addressed *eikos*, or what Aristotle defined as "that which generally happens, not however unreservedly, as some define it, but that which is concerned with things that may be other than they are," in contrast to the true, the necessary, and the unchanging (*Rhetoric*, I.2.1357a15-b16, trans. Freese). The debates were both normative and evaluative, tackling the extent to which rhetoric should traffic in likelihood and how we then should value rhetorical pursuits as a result.

In rhetoric, the term "*eikos*" generally refers to a person's understanding of that which is likely to happen in a given situation (Walton, 2001, 104). Somatic markers, on the other hand, are physiologically recorded measures of likelihood. Somatic markers keep track of the pairing of bodily state and situation, "[reflecting] access to records of previous individual experience . . . records shaped by reward, punishment, and the emotional state that attends them" (Bechara *et al.*, 1997, 1294). As such, I might describe the somatic marker system's biases as likelihood management vehicles in the form of bodily dispositions. For example, when neurologically intact card game participants begin to get negative outcomes from bad decks, they seemingly respond to the likelihood that that if they were bad before they will be bad again. And the body seemingly

initiates a response based on likelihood before declarative knowledge ever comes to the fore. Therefore, while arguments from *eikos* work within the system of conscious reasoning, the somatic marker system can be described as managing likelihood in a covert and bodily manner.⁵

So in what light do somatic markers cast Plato, who advocated the true and necessary as the most valuable forms of knowledge? Plato sharply distinguished between *eikos*, which concerns the level of contingent physical reality, and true knowledge, which is abstract, universally valid, and has to do with the realm of the eternal and universal forms. *Eikos* is a region of relative stability among the flux of contingent reality, but it is a tenuous stability, subject to both change and exception. He considered the level of contingent reality inferior to the level of true knowledge. He furthermore asserted that though it does not require the use of *eikos*, with its mere likeness of the truth, good speech requires true knowledge (Plato, *Phaedrus*, 259e-260e, trans. Nicols). As William Grimaldi observes, “While it is impossible to escape the fact that Plato admits the legitimacy of an art of language ... the burden of his argument would appear to restrict its legitimate exercise to the object of the speculative intellect: the knowledge of ultimate, unchanging reality. There can be no art of rhetoric without *episteme*” (Grimaldi, 1972, 22). Plato embraces rational investigation that aims to discover the true and unchanging, not discourse that settles for the likely.

One might begin incongruously pairing Plato’s views on *eikos* with the somatic marker hypothesis by considering how the former align with the latter. Perhaps surprisingly, Damasio’s theory does not stand in contradiction to Plato’s views on likelihood. For one, Plato conceded that in the absence of knowledge, people can nonetheless arrive at the correct course of action (*Meno*, 97a-d, trans. Grube). Moreover, despite the vast scope of embodied likelihoods, the somatic marker hypothesis clearly leaves room for reasoned reflection as a distinct system of knowledge. Those patients who had suffered ventromedial damage still retained the type of knowledge that enabled them to score well on intelligence tests. They may not have been able to make advantageous life decisions, but they

⁵ Because the somatic marker hypothesis has to do with likelihoods as experienced rather than necessarily understood or known, I do not use the term *eikos* to identify bodily likelihoods, though one could make a case for why *eikos* should encompass both.

could certainly solve equations. Plato might well have seen no challenge to his philosophical system in Damasio's somatic marker hypothesis. Just as Plato dismissed arguments from *eikos*, he very well would have dismissed embodied likelihoods as unrelated to true and certain knowledge and the universal forms. Plato might agree that the space for true knowledge in the world's affairs is slight, yet he would still think it worthwhile to try to discover it.

Yet the perspective by incongruity generated here is also productively disruptive. For one, it highlights the tension between focusing tenaciously on eternal truths while embodied likelihoods presumably course through the body in a largely covert and inescapable fashion. Moreover, it would seem that eliminating *eikos*-based argument might not eliminate likelihood's influence. Even a Platonic search for eternal truth would not be immune to this fundamental dimension of human response. Likelihoods might be much harder to banish from discourse than Plato might have liked and examining the implications of that could be quite fruitful. What does it mean if the search for eternal truth is nonetheless inextricably intertwined with embodied likelihood at every step?

In addition, there is also room for a more playful form of perspective by incongruity, similar to the strategies of incongruity Anne Demo describes in her work on the feminist art activists, the Guerrilla Girls, who would, for example, put a guerilla mask on a female body to disrupt conventional expectations of the female form. In that spirit, we might take Plato's vision of the philosopher who abandons likelihoods in the pursuit of true knowledge as an endorsement of the sort of brain damage that is the subject of Damasio's work. The person who can most fully operate outside of the purview of likelihood is the individual whose ventromedial prefrontal cortex has been damaged, and who thereby no longer has a functional somatic marker system. The ideal philosopher, then, is the one whose ventromedial prefrontal cortex has been ablated. Though he or she may make decisions in everyday life, he or she engages in the most unsullied dialectic and has the most reliable path to true knowledge.

But, of course, Plato was rhetoric's critic, not its champion, and his denigrations of likelihood as subject matter functioned as devaluations of rhetoric itself. Aristotle's position was quite different. According to Aristotelian epistemology, *eikos* is one of our necessary sources of knowledge about the world. For him, since something must be either potentially true or false in order

to require deliberation, rhetoric does not concern itself with the necessarily true (*Rhetoric* I.2.1357a12-13, trans. Freese). Rhetoric, it follows, is the realm of likelihoods and arguments from *eikos* are a legitimate part of discourse. Furthermore, Aristotle regarded argument from *eikos* as legitimate on its own terms. One does not refute an argument from likelihood by showing that it can be otherwise, but rather must demonstrate that it is not likely to be so. In other words, one cannot simply hold it to the standard of proof of the true, but must refute *eikos* according to its own conditions.

Although Aristotle considered *eikos* necessary when dealing with arguments about human action, he believed its legitimate use is limited. For example, when a man has no witnesses to support his contention, he can resort to *eikos* and appeal for a decision on that basis (*Rhetoric*, I.15.1376a17, trans. Freese). However, when a man has witnesses on his side, he should argue that, “Probabilities incur no responsibility, and that there would have been no need of evidence, if an investigation according to the arguments were sufficient” (*Rhetoric*, I.15.1376a18, trans. Freese). Aristotle thus held that in some cases *eikos* is a valuable form of argument, though its value is compromised once more direct forms of evidence, such as sworn testimony, are available. Therefore, *eikos* exists in a tenuous position with respect to other forms of knowledge. According to Aristotle, *eikos* also has another major place of application. It is indispensable when communicating with the masses. He explained that even if scientific knowledge of the true is available, the masses often are simply not persuaded by such knowledge. Therefore, one must deal with them in terms of that which is generally accepted: *eikos* (*Rhetoric*, I.1.1355a12, trans. Freese).

Aristotle acknowledged a place in rhetoric not only for *eikos*, but also for emotion. In the *Rhetoric*, he noted that, “The judgments we deliver are not the same when we are influenced by joy or sorrow, love or hate” (*Rhetoric*, I.2.1356a5, trans. Freese). Well aware of language’s power to rouse emotion and influence judgment, he admitted emotion’s truly vital role in rhetoric, devoting a considerable section of the *Rhetoric* to defining the various kinds of emotions and the circumstances that produce them, though he criticized those rhetoricians who attended exclusively to the use of emotion to effect persuasion (*Rhetoric*, II.1.1378a8-I.11.1388b7, trans. Freese; *Rhetoric*, I.1.1354a5-6, trans. Freese).

Putting Damasio's somatic marker hypothesis in incongruous contact with Aristotle's views on *eikos* engenders the following reflections. Both Aristotle and Damasio conceive of emotion and likelihood as important means of negotiating contingent human affairs. Damasio's theory of somatic markers also suggests a functional connection between the two. In outlining a mechanism by which likelihood is embodied, Damasio's theory also suggests an additional way in which likelihoods impact our everyday decisions, actions, and discourse. Perhaps most compelling is the incredibly broad and pervasive role for likelihoods that this suggests. Damasio claims that "few if any perceptions of any object or event, actually present or recalled from memory, are ever neutral in emotional terms. Through either innate design or by learning, we react to most, perhaps all, objects with emotions, however weak, and subsequent feelings, however feeble" (Damasio, 2003, 93). The language we encounter, whether directed toward us or simply in our purview, is always interacting with our system of somatic markers and therefore is always engaged with our embodied likelihoods. Therefore, according to Damasio's theory, the likelihoods that make their way into argument are only a small fraction of those that actually influence our behavior.

The collision of perspectives here is jarring, and in some ways similar to the movie zoom out, in which that which you have been paying close attention to, such as a single street, is suddenly placed in increasingly broader contexts, from cityscape, to nation, to earth, to space, to the universe. You thereby experience a dizzying sensation of how small, really, that single street is in the grander scheme of things. The somatic marker hypothesis suggests that, embedded in the very neural architecture of our bodies, likelihoods influence rhetorical affairs in an astonishingly pervasive way. And if their domain is so vast, the question of whether to allow explicit verbalizations of *eikos* in argument appears comparatively small. This juxtaposition of perspectives provides a unique vantage point from which to consider anew the question of legitimacy, about which Aristotle was greatly concerned. In one sense, the question becomes diminished in its recasting. It is not wrong, not incorrect, and nothing has been proven or disproven. But the question has been displaced in some way.

So what, then, of sophists such as Corax and Tisias, Gorgias, and Antiphon, who were known for their rampant and unapologetic use of arguments from *eikos*, particularly for forensic purposes. For example, in Antiphon's *The Murder of*

Herodes, a defendant stands accused of murder in a case that lacks direct evidence. When a witness says that after committing the murder, the defendant enlisted his aid to help conceal the crime, the defendant counters with a clever appeal to likelihood, stating, “Here I have an ally in probability. I would surely not be so foolish as to plan on my own to kill the man, so that no one should be my accomplice (for in accomplices lay my whole danger), but when the deed was done, then enlist witnesses and confidants” (Sprague, 1972, 174). However, since the Sophists developed no systematic treatises on the subject and so little of their own writings survive, our perspective by incongruity occurs at something of a distance, as we cast the somatic marker hypothesis alongside the Sophists’ largely reconstructed theoretical positions (see, for example, Poulakos, 1983; Schiappa, 1991).

By one concise summary, which reflects the dominant account, the Sophist position was “that appearance and opinion are the closest that human beings can come to ‘truth’ and ‘knowledge’ about the world, and that opinion is subject to persuasion through speech” (Johnstone, 2006, 282; see Crick, 2010, 27). The Sophists’ embrace of *eikos*, then, is tied to their positive valuation of appearance and opinion and the sort of practical knowledge constituted by them, which is itself concomitant with an underlying subjectivism. Appearance and opinion exist via mental representation and the person who makes the weaker argument the stronger, employing probable argument in the process, does so in terms of someone’s cognitive apparatus. The somatic marker hypothesis, therefore, highlights the cognitivist bent of the Sophists’ embrace of the probable.

In a playful form of incongruity, we can use the somatic marker hypothesis to cast the Sophists as conservative, a Gorilla mask for Sophists if ever there was one. The Sophists are generally regarded as intellectual rebels, upending tradition and defying convention with the “desire to dazzle [and] shock” (Gagarin, 2001, 289; Gould, 1955, 58). Yet the somatic marker casts their version of likelihood as a tidier, more modest, and controlled version than other possibilities. Moreover, they can be seen as rather staidly upholding the conscious mind as fulcrum for likelihood management, together with other forms of world-knowing and world-making. Their embrace of likelihood, therefore, is not quite as wholesale as it could be, and there is a tinge of conservatism to their relativism.

Conclusion

In a neuroretoric of incongruity, the somatic marker hypothesis neither confirms nor disconfirms any particular ancient views on *eikos*. Instead, by positing a pervasive embodied system of likelihood management, it both deepens and disrupts our understanding of them. Now the difference between what I have done and affirming, disconfirming, or the like is both subtle and substantial. In taking a non-foundational stance that is invested in perspective, is at ease with conjectural possibility, and does not demand empirical substantiation, I have remained in the realm of the critic artist. And of course, importantly, this means that I can bracket the foundationalist empirical investments of neuroscience.

It is possible that Damasio is wrong and there is no system of somatic markers mediated by the ventromedial prefrontal cortex. And though his theory has been highly influential, it has also been the subject of critique (Dunn *et al.*, 2006; Maia and McClelland, 2004). But as a rhetorician, I am not trained to assess it on empirical grounds. Nor do I want to. As a rhetorician, the confirmation of theories is of less interest to me than the way in which those theories are useful as forms, patterns, and recipes in the abstract (Brummett, 1984, 103). I am ok with vampires. In my example of how to use neuroscientific research in a non-foundational manner, the somatic marker hypothesis is not the final word on argument and likelihood, nor does it make obsolete the ancients. Instead it offers something more modest: a fresh angle from which to view ancient discussions of *eikos* anew.

The approach to neuroretorics I recommend empowers the rhetorician by valuing habits of thought that have long characterized the field, beginning with a spirited openness to think with and against the neuroscientific claim and think through its implications for rhetoric. In doing so, it may invigorate old conversations and begin new ones, enriching us with novel ways to conceive of rhetorical theory and history. In many ways, a non-foundational neuroretoric reverses Bowers' suggestion that rhetoric be regarded as pre-scientific. Instead, neuroscience is pre-rhetorical; it serves us, becoming grist for our rhetorical perspectives on the communicative world.

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