

Productive Strife: Andy Clark's Cognitive Science and Rhetorical Agonism

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This article posits that Andy Clark's model of distributed cognition manifests socially through the agonism of human activity, and that rhetorical theory offers an understanding of human conflicts as productive and necessary elements of collective response to situation rather than as problems to be solved or noise to be eliminated. To support this assertion, the paper aligns Clark's argument that cognition responds to situated environmental conditions with the classical concept of kairos, it associates Clark's assertion that language structures behavior (Being There 195) with the long-held rhetorical stance that language is constitutive, and it examines the online encyclopedia Wikipedia as an enactment of what Clark and rhetorical theorists claim about productive agonism and the litigious nature of identity and cognition.

Andy Clark's *Being There* attempts to locate acts of cognition in the context of their situated material conditions, or, as the book's subtitle states, it tries to put brain, body, and world together again. By reinserting the physical world into the rarefied concept of thought, Clark implicitly rejects the Cartesian split between mind and body manifested in Descartes's *cogito* argument: I think, therefore I am. According to Clark, Descartes's division negates a vast amount of relevant, practical data, in that "treating cognition as pure problem solving invites us to abstract away from the very body and the very world in which our brains evolved to guide us" (xii). It is possible that Decartes's structure is therefore inverted; perhaps the theoretical "I" is able to form abstruse concepts because of the decidedly physical nature of human being, or in Clark's phrasing, because human intelligence is born of the "coupling of organism and world that is at the root of daily, fluent action" (4).

Clark asserts that his holistic stance has connections with philosophical texts including Martin Heidegger's *Being and Time*, cognitive development studies such as those by Lev Vygotsky and Jean Piaget, and more recent cognitive science works such as *The Embodied Mind* by Francisco Varela, Evan Thompson, and Eleanor Rosch (xvii). *Being There* thus reveals a rich, cross-disciplinary heritage that transgresses the permeable membranes between the hard and social sciences and more conventional humanities subjects. Indeed, Clark states that these elements are most productively addressed as a single field, and he posits that "the *overall* system of brain, body, and

local environment can constitute a proper, unified object of study” (154, emphasis in original). Clark attempts his own treatment of this amalgamated subject in his later work *Natural-Born Cyborgs* by exploring how the interplay between a physical organism and its natural and constructed environment manifests ontologically, resulting in what Clark calls the “soft self”: a contingent identity emerging from the interacting elements of a wide, continually-changing network (138).

The classical concept of the *agōn* (or agonism), which rhetoric scholar Debra Hawhee calls “productive strife,” has deep resonance with the soft self Clark posits (*Bodily Arts* 25). The *agōn* describes a scenario in which multiple components engage in a reciprocal process of generative competition. An *agōn* shapes its participants, but it also produces a higher-order emergent effect. In the classical world, agonism was frequently linked with activities such as rhetorical debate, wherein multiple orators would engage in a hybrid competitive/cooperative process toward the production of a gestalt such as civic harmony, which in turn would shape the lives of the participants and the broader citizenry. The *agōn* thus has a circular flow among micro and macro levels. In addition, agonism was also closely associated with competitive physical activities, in particular wrestling. It was in these corporal interplays that “in the name and spirit of the *agōn*, bodies not only came together, they *became* bodies, bodies capable of action and (hence) identity formation” (*Bodily Arts* 15, emphasis in original). Classical agonism thus endorsed a unification of mind and body that denied (and predated) the comparatively recent Cartesian segregation. Moreover, such unification was not metaphorical for the ancient Greeks, but actual. Discussing *hexis*, the Greek word for bodily condition or state, Hawhee writes that for the Greeks a change in *hexis* constituted a change in thinking (*Bodily Arts* 58). Shaping the unified body/mind through the *agōn* was thus the holistic “dynamic through which the ancients repeatedly produced themselves,” both materially and mentally (*Bodily Arts* 15).

Agonism connects to biology and cognition as Clark articulates them because, as Hawhee argues, in a classical context agonism was “not merely a synonym for competition, which usually had victory as its goal” (*Bodily Arts* 15). Hawhee points out that for such contests as these the Greeks had another word, *athleuein*, a verb meaning “to contend for a prize” (*Bodily Arts* 15). The struggle of the *agōn*, whose root meaning is “gathering” or “assembly,” was not the intellectual or physical triumph of one autonomous entity over another; the *agōn* was an emergent structure, emphasizing “the

event of the gathering itself” (*Bodily Arts* 15-16). As such, the structure of the *agōn* was democratic and collective rather than hierarchical.

Both classical agonism and Clark’s formulation of the soft self lack a central authority like the Cartesian rational mind. Clark positions the conscious mind not as the master control that orders sense experience, but as the connective tissue that binds and nurtures the network. “For *who we are*,” Clark writes, “is in large part a function of the webs of surrounding structure in which the conscious mind exercises at best a kind of gentle, indirect control” (*Natural-Born Cyborgs* 174, emphasis in original). Through this model, the conscious mind “emerges as something like a new-style business manager whose role is not to micromanage so much as set goals and to actively create and maintain the kinds of conditions in which various contributing elements can perform best” (*Natural-Born Cyborgs* 135). Keeping in mind that when Clark writes “conscious mind” he is not using it in a Cartesian sense, but in the decentralized, coalitional ways described above, the activities he attributes to it (creating and maintaining conditions conducive to contributions from multiple elements), we argue, are complimentary to the work of rhetoric, which we will come to define as training in linguistic agonism to negotiate¹ the continually-contingent situation. To be more precise, we posit that the cooperative competition Clark identifies in distributed cognition also manifests at a macro social level as the agonism of human activity, and a rhetorical perspective permits an understanding of intra- and inter-personal conflict as productive and necessary elements of collective response to situation rather than as problems to be solved or system noise to be eliminated.

To support this assertion, we will draw three central connections between Clark’s intellectual project and rhetorical theory. First, Clark argues that cognition responds to situated environmental conditions, and he gives voice to the “role of context, culture, environment, and technology in the constitution of individual human persons” (*Natural-Born Cyborgs* 139). Similarly, the classical concept of *kairos* implies that the identity (or *ethos*) of the rhetor emerges in response to situated environmental conditions, both material and intangible. As such, rhetorical theory provides productive historical frameworks to understand a self that is in constant flux. Second, Clark argues that “the role of language is to guide and shape our own behavior—it is a tool for structuring and controlling action, not merely a medium of information transfer between agents” (*Being There* 195). Rhetoricians have long argued that language is not merely expressive but constitutive; that

is, speech and writing are not the expression of thought but the engines of it. Thus, we argue that rhetorical negotiation of human language defines the parameters of human *being*. Last, we will connect Clark's project with rhetorical theory by turning to a current, practical humanities project that complements this paper's theoretical perspective with real-world praxis. The text we will explore is the online encyclopedia Wikipedia, which is a manifestation of much of what Clark and rhetorical theorists both ancient and modern have to say about productive agonism and the litigious nature of identity and of shared cognition.

To reiterate, we contend that Clark's work implicitly calls for a renewed emphasis on rhetoric and rhetorical training as the means to negotiate personal and social agonism. Rhetoric may very well be, in Clark's terms, the ultimate cyborg technology, and the very thing that can address the real concerns he gives voice to in the conclusion of *Natural-Born Cyborgs*: namely that—heterogeneous as we are—there is always the risk of inequality, intrusion, uncontrollability, alienation, deceit and degradation among people (167). We do not claim that rhetoric solves these problems. What rhetoric offers is the means to reinterpret such strife as a productive element of a generative agonism, allowing us to navigate through the world that moves through us, in and out of the body and mind.

Kairotic Identity

The pre-Socratic philosopher Heraclitus is perhaps best known for his statement that “one cannot step twice into the same river, nor can one grasp any mortal substance in a stable condition, but it scatters and again gathers; it forms and dissolves, and approaches and departs” (qtd. in Kahn 53). Eduard Zeller's claim, which has become something of a standard modern reading of Heraclitus,² is that this statement and others like it reveal the central tenet of Heraclitus's cosmology: the essence of existence is flux (67). Heraclitus posits a world in which all things are in a constant state of change. Stability thereby becomes a kind of useful illusion. Such a worldview explains why a person cannot enter the same river twice; not only has the river changed, but the person has as well.

Clark sees embodied in human beings the sort of constant change that Heraclitus observes in the world at large. Clark states that “a human body does not comprise the same mass of matter over time—cells die and are replaced by new ones built out of energy from food. We, too, are higher-

order collectives whose constituting matter is in constant flux” (*Being There* 74). This continual flow in and out of the body has profound implications for the status of the self. Clark views the boundary between the body and its surroundings as extremely porous, and in words that recall Heraclitus’s sentiment, he states that “plasticity and multiplicity are our true constants” (*Natural-Born Cyborgs* 8). We can see in both these claims—one drawn from classical rhetoric and one from contemporary cognitive science—a concept of the human being as, both literally and metaphorically, *part* of its changing surroundings, intermingled with its environments.

This leaky worldview, understood with regard to the entanglement Clark posits between biological body and immaterial mind, raises important questions about the nature of self and identity. If humans are deeply enmeshed with their environments, what is identity and how is it formed? One pathway into this issue offered by classical rhetoric is the role of language and communicative acts in the making of self. The sophistic³ doctrine of *dissoi logoi*, or “opposing arguments,” is a discursive mode that seeks to explore the “probable truth” in alternate perspectives (Bizzell and Herzberg 23). *Dissoi Logoi* promotes an agonistic structure in which production arises from the tension between contraries, or what Eric Charles White calls “the strife of opposites” (16). The *dissoi logoi*, according to White, “proposes a view of reality itself according to which the historical unfolding of reality can be expected to assume the form of an unending flux,” a concept that has clear connections to Heraclitus’s view of existence as a continual fire that “remains the same by becoming other than itself” (qtd. in Kahn 16), as well as Clark’s coalitional soft self.

The contradiction of the *dissoi logoi*, its agonistic strife of opposites, is intended to be generative rather than paralyzing: an interpretation that can be best understood by exploring the classical concept of *kairos*. Although *kairos* does not map directly to any modern English term, its classical meaning was close to “the right moment” or “the opportune” (White 13). *Kairos* also incorporates connotations of opportunity or invitation, somewhat akin to the modern term *exigence*. Because of this, *kairos* has become associated with a pragmatic response to the needs of the contingent situation. In a world of flux, driven by contradiction, all actions are inherently temporary and idiosyncratic. The appropriate sophistic response is thus to eschew the goal of transcendental truth and pragmatically meet the *kairos* of the moment.

To understand how *kairos* and rhetoric were invested in the making of self in ancient Greece, we must go back even further than Heraclitus’s 6th

century BCE. A productive starting point is the prototypical Greek hero Odysseus. As a fictional character, Odysseus is quite literally constructed from oral, and later written, discourse—most prominently but not exclusively in Homer. Odysseus is depicted as a crafty figure with a mutable identity that becomes temporarily fixed through rhetorical acts in response to *kairotic* situations. In their book *Cunning Intelligence in Greek Culture and Society*, Marcel Detienne and Jean-Pierre Vernant refer to Odysseus as a central Greek archetype of *kairotic* metamorphosis, a man “who can turn a different face to each person” (39). This characterization is not only a modern interpretation; Hawhee claims in *Bodily Arts* that the ancient world considered Odysseus to be a personification of cunning (*mētis*), a man of many turns (*polytropos*) (51). Importantly, the mechanism of Odysseus’s persona transformations is language. This manifests notably in the conclusion of the *Odyssey*. Upon landing at Ithaca, Odysseus attempts to pass himself off as a shepherd to his disguised patron goddess Athena. The two verbally joust, and although the deity can see through Odysseus’s subterfuge, she allows him to spin an impromptu background narrative, and applauds his use of language to make himself other than he is—noting that in the mortal world, being protean is being prudent. Soon after this incident, Odysseus, now masquerading as a beggar, encounters his wife Penelope and son Telemachus, and he is able to inhabit his new persona so completely that even after he has shed his visual disguise Penelope does not believe he is who he claims to be until he answers her marriage bed riddle (thus establishing another identity, that of Odysseus the husband, through a rhetorical game).

These events reiterate that Odysseus’s multiple identities arise from rhetorical performances; they coalesce and dissipate through communicative acts in response to situated needs. The most explicit example of this and one of the most well known episodes of the *Odyssey* occurs in Book 9, when the Cyclops Polyphemus captures Odysseus and his men. Responding to the demands of the *kairotic* situation, Odysseus convinces the cannibalistic Cyclops that he is “*Outis*,” which translates approximately as “no one” (Hawhee, *Bodily Arts* 51). When Odysseus’s plan comes to fruition and he blinds Polyphemus, the Cyclops is unable to call for assistance, foolishly shouting that no one has injured him.

Rhetoric’s connection to the making of self is revealed in this episode. Odysseus forges an identity (or non-identity) through an act of discourse. Hawhee devotes a fair amount of attention to Odysseus in *Bodily Arts*, and concludes that “Odysseus is always becoming something else: in a bizarre

twist, his proclamation to Polyphemus that he is no one in particular is actually fairly accurate” (52). Odysseus is fundamentally a shapeshifter; his identity is radically contingent and predicated upon response to context. As Hawhee suggests, the disguises of Odysseus do not conceal a core self; the act of morphing between personas *is* his defining characteristic, and it is rhetoric that enables his transformations (52).

The ability of rhetoric to make selves also potently manifests in the 5th and 4th century BCE rhetorical theory and praxis of the sophists. White reveals in *Kaironomia* that, like Odysseus, the figure of the sophist was traditionally associated with *kairos* in classical Greece. Through rhetorical guile, the sophist responds to contextual circumstances by changing himself and his situation, “implying an occasional or context-specific stance toward experience” (39). Because of this contingency, the *ethos* of the sophist must remain fluid, and “would thus become identical with its present performance” (38). Like Odysseus, the sophist must be both potentially everyone and no one.

This description of the sophist is potently embodied in Gorgias of Leontini, one of the most influential sophists. Gorgias practiced a rhetorical theory that “privileged *kairos* as the master concept” (White 14), so much so that when he was called upon to orate at Athens, he invited the audience to name the subject upon which he would speak, trusting to the “immanence in a particular rhetorical moment” (Hawhee, *Bodily Arts* 76). Crucially, such a move does more than just depict Gorgias as a skillful fabulist; each turn of argument, from one *kairotic* moment to the next, transforms his identity into that of a person with the credibility to speak about the subject. Hawhee provides insight into this distinction in “Kairotic Encounters” through her discussion of Gorgias’s “Encomium of Helen.” As Gorgias shifts through his arguments for why Helen was not guilty of causing the Trojan War, he directs his audience to “listen (*phere*) as I turn (*metastô*) from one argument (*logon*) to another” (qtd. in “Kairotic Encounters” 23). As Hawhee contends, this is more than a simple transition between arguments; it underscores the act of turning, or transformation itself:

This moment of direct address thus marks a critical—and literal—turning point in the *Helen*: not only does it mark a transition from one argument to the next, but it marks the transformation of Gorgias himself in that discursive moment. Gorgias does more than catalogue arguments; he cultivates an *ethos* that morphs between *logoi*. It is,

therefore, the *turn* itself, not the *logoi*, but the very act of changing and being changed that Gorgias foregrounds when he directs those present to listen (*phere*) (“Kairotic Encounters” 23, italics in original).

It is this transformation of self through language in “the timely, kairotic encounter” that causes “different *ethoi*” to emerge (“Kairotic Encounters” 32). Rhetorical action thus becomes the means through which Gorgias’s identities become temporarily congealed in response to the needs of the *kairotic* situation. For Gorgias, such changes were not metaphorical but literal. In keeping with the classical notion of *hexis*, as well as Clark’s materialism, Gorgias equated changes of mind with changes of substance, as evinced in his “Encomium” through the claim that Helen is not to blame for her actions because speech has an affective power on the physical body comparable to that of drugs (45). For Gorgias, language causes real changes in the material world—to bodies, selves, objects, and situations.

For these various figures of antiquity, the means of engagement with a universe in constant flux was to suit the *kairotic* moment by becoming the person appropriate to the present situation. These changes occurred through the use of the uniquely human cyborg technology: language. This connects *kairotic* rhetorical theory with Clark’s model, and helps us address the very real problems of identity that seem to arise in the distributed cognition paradigm. The emergence of a contingent self through rhetorical action is not a morally relativistic act born of pernicious postmodernism; it has a legitimate intellectual tradition with millennia-old roots that predate Plato’s division of existence into two discreet spheres (and also accordingly Descartes’s Neoplatonic dualism). A *kairotic* rhetorical perspective thus does not solve distributed cognition’s identity problem; it subverts it. Like Clark, we might recognize that Neoplatonic Cartesian dualism is paradigmatic rather than inherent.⁴ There are legitimate and substantive cosmologies that predate it, which we argue grants Clark’s proposed reunification in *Being There* historical and intellectual weight.

Constitutive Language

Rhetorical theory, in particular the sophistic tradition, privileges language as the key to human action and thought. Beginning with the earliest treatises on rhetoric, persuasion, and speech, language has been seen as constitutive. In the 4th century BCE, Isocrates wrote in his *Antidosis*

that “there is no institution devised by man which the power of speech has not helped us to establish” (327). All social action, any being together, was constructed (agonistically/persuasively) through a shared language. Isocrates viewed language not only as constitutive of human institutions but as constitutive of human thought as well: “For the same arguments which we use in persuading others when we speak in public, we employ also when we deliberate in our own thought” (328). In all our actions *and* in all our thoughts, “speech is our guide” (329).

Language, in addition to its power to construct institutions and thought, was seen as having power over human bodies. Gorgias, as mentioned in the previous section, argued in his “Encomium of Helen” that “speech is a powerful lord, which by means of the finest and most invisible body effects the divinest works: it can stop fear and banish grief and create joy and nurture pity” (45). Hawhee argues that “speech, for Gorgias, doesn’t merely operate on bodies, but, as Gorgias hints here, discourse itself operates as a body, albeit difficult to discern separately from its effects” (*Bodily Arts* 80). Language, in the rhetorical tradition, is more than a means to convey information; it is a productive presence in the physical lives of those who take part in it. Again, we see Clark’s vision of cognitive science dovetailing with the rhetorical tradition.⁵ When Clark writes that “the old technologies of pen and paper have deeply impacted the shape and form of biological reason in mature, literate brains,” we see how such language-based technologies not only operate on the body and the brain, but how they also operate biologically themselves (*Natural-Born Cyborgs* 32). Language, both rhetoric and cognitive science argue, is constitutive of bodies.⁶

Through this view, language becomes more than merely a means for the transmission of knowledge. Just as Isocrates suggests that we use public speech when we think in private, so too does Clark argue that “language is not the mere imperfect mirror of our intuitive knowledge. Rather, it is part and parcel of the mechanism of reason itself” (*Being There* 207). We are left to wonder, Clark writes, “whether this might be an entire species of thought in which language plays the generative role” (*Being There* 209). Language here constitutes a special, productive body of thought, as Isocrates suggests. Clark himself acknowledges the roots of this line of thinking in ancient Greek thought:

The Greeks, however, are said to have begun the process of using the written word for a new and more transformative purpose. They began

to use writing to record ongoing processes of thought and theory-building. Instead of just recording and passing on whole theories and cosmologies, text began to be used to record half-finished arguments and as a means of soliciting new evidence for and against emerging ideas. Ideas could then be refined, completed, or rejected by the work of many hands separated in space and time (*Natural-Born Cyborgs* 79).

Clark goes on to cite Donald Merlin, who argues that writing was “much more than a symbolic invention, like the alphabet or a specific external memory medium, such as improved paper or printing. [It was] the process of externally encoded cognitive change and discovery” (qtd. in *Natural-Born Cyborgs* 79). Writing thereby serves the even more important function of allowing human thought to become an object of reflection. Clark states:

After all, our single most fantastically successful piece of transparent cognitive technology—written language—is not simply the poor cousin of face-to-face vocal exchange. Instead, it provides a new medium for both the exchange of ideas and (more importantly) for the active construction of thoughts. (*Natural-Born Cyborgs* 109)

Following Peter Carruthers’s formulation that “one does not *first* entertain a private thought and *then* write it down: rather, the thinking *is* the writing” (qtd. in *Being There* 197, emphasis in original), Clark argues that writing creates a new place for human problem solving by manipulating the environment: “However, the emphasis on language as a medium of communication tends to blind us to a subtler but equally potent role: the role of language as a tool that alters the nature of the computational tasks involved in various kinds of problem solving” (*Being There* 193). Through language we create designer environments that in turn shape human intelligence. Even something as apparently un-rhetorical as math is predicated “upon the operation of distinct, culturally inculcated, and language-specific abilities” (*Natural-Born Cyborgs* 72). Math thus becomes a product of a linguistically-designed smart environment. For Clark, then, as for rhetoric, language is a technology “to live with, to work with, and to *think through*” (*Natural-Born Cyborgs* 58, emphasis in original).

Fully tracing the implications of this model, Clark argues (seconding Isocrates and Gorgias), that language is constitutive of *being* as well. Clark,

however, is not alone among cognitive scientists in making such claims. Stanley Greenspan and Stuart Shanker, authors of *The First Idea*, argue, as Clark does, that external structures (such as language) drive human development and explain human *being*. Rather than being solely an expression of genes, humanness is seen here as a linguistically (and thus rhetorically) constructed quality. Humberto Maturana and Francisco Varela, authors of *The Tree of Knowledge*, argue that “we human beings are human beings only in language” (212). We do not really, like Mowgli in *The Jungle Book*, come into language by ourselves. “We are,” rather, “constituted in language in a continuous becoming that we bring forth with others” (235). Disconnected from language and the others with which we must share it, we are not “human” in the sense we have come to know. This is not to suggest that language brings us to an essential human nature, but that humanness continually emerges, in part, through language, which exists socially. Additionally, this recalls Hawhee’s statement that it is through competitive/cooperative agonism that the Greeks continually remade themselves. If human being is dependent not just on biology, but on language-driven social activity, then the rhetorical work of being human is never done.

Clark draws from Daniel Dennett, a prominent American philosopher of the mind, to posit that our advanced cognitive abilities are “attributable in large part not to our innate hardware [...] but to the special way that various plastic (programmable) features of the brain are modified by the effects of culture and language” (*Being There* 198). Responding to the question of what “linguistic surroundings” do for brains such as ours, Clark addresses spoken language “as a kind of triggering cognitive technology” (*Natural-Born Cyborgs* 69-70). He argues further that “words, on this account, can be seen as problem-solving artifacts developed early in human history, and as the kind of seed-technology that helped the whole process of designer-environment creation get off the ground” (70). Clark and other scholars working in cognitive science, along with those working in rhetorical theory, see language as constitutive of what it means to be uniquely human.

As we have argued, this line of thinking in cognitive science implicitly calls for rhetorical theory in not only understanding human development as driven by language, but as the way of negotiating the complex task of creating cultural environments that have profound influences on the ways we live and are. When language is seen as more than the transmission of information between autonomous agents, rhetoric becomes more than mere ornamentation. Rhetoric, tied to language as it is, is the means to negotiate

the production of knowledge and the cultivation of external scaffolds that will in turn constitute how we think and are; rhetoric, in short, allows us to negotiate reality itself. Language constitutes thought, it operates in and as a body, and, as Isocrates reminds us, it constitutes public bodies—governments, courtrooms and markets (all our *agoras*). If agonism as a system is at the heart of what it means to be human, then language and rhetoric are the technologies we use to negotiate it.

Bodies of Knowledge

At this point, it is appropriate to turn to a practical example of how agonism extends through the individual body into social knowledge structures to give real-world grounding to this paper's proposed connection between Clark's intellectual project and rhetorical theory. The entity we will examine is the multilingual, international, online encyclopedia Wikipedia. Although there are widespread concerns about the accuracy and quality of Wikipedia's content, it nevertheless embodies and enacts the features of knowledge production that Clark and rhetorical scholars describe: hybridized competition/cooperation; distributed rather than centralized authority; the formation of an emergent gestalt irreducible to its parts; construction of knowledge, and thereby truth, through language. Through real-time editing and the ability to mark questionable information for debate, knowledge in Wikipedia continually emerges through a social *agōn*.

To reiterate and clarify before proceeding, we are not making any claims about the accuracy or inaccuracy of Wikipedia's *content*; our exploration focuses on Wikipedia's *process* of agonistic social knowledge production. Wikipedia, as indicated above, is often dismissed in academia due to fears that it is uncontrollable and error-filled,⁷ despite (or perhaps because of) its immense popular use. Wikipedia itself acknowledges that "as with any community-built reference, there is a possibility for error in Wikipedia's content" ("Who Writes"). Of course, any body of knowledge, socially-generated or not, is similarly contestable. As stated in this paper's introduction, rhetoric—training in linguistic agonism—is not a means to eliminate error (for this is not possible), but rather to reinterpret it as a necessary feature of social knowledge construction. Through this lens, knowledge is produced through the back and forth of a plurality of voices. Appropriately, Wikipedia's recommendation is not to narrow

the validation of knowledge to one objective data stream, but to “check your facts against multiple sources” (“Who Writes”). Indeed, Wikipedia’s “flaws” may only be viewed as such from the position that knowledge is fixed and immutable.⁸ Clark and the ancient Greeks contend that the self and its biological and intellectual compliments are constantly negotiated, suggesting that Wikipedia’s perpetual imperfect evolution is merely a more visible manifestation of an omnipresent phenomenon. Knowledge, like bodies and minds, is never “finished.”

Knowledge is produced agonistically on Wikipedia through the various, frequently-competing page modifications posted by Wikipedia users. “This allows Wikipedia,” its administrators argue, “to be a place not only of information but of collaboration” (“Who Writes”). Indeed, the statement of principles on Wikipedia founder Jimmy “Jimbo” Wales’s user page reads: “Wikipedia’s success to date is entirely a function of our open community” (“User: Jimbo Wales”).⁹ As with any such system, disputes inevitably arise. However, rather than referring conflict resolution to a central authority, Wikipedia explicitly establishes a framework to govern productive discourse¹⁰ which is supported through a wide network of editors, mediators, and arbitrators nominated from the user community itself. This casts Wikipedia as one of Clark’s “self-organizing knowledge structures” (*Natural-Born Cyborgs* 145). Drawing from artificial intelligence researcher Rodney Brooks, Clark states that these entities are not controlled by “a central planner or reasoner. Instead, we see a ‘collection of competing behaviors’ orchestrated by environmental inputs” (*Being There* 14). The words of Wikipedia’s administrators reveal the site’s investment in negotiation as a means of organization:

A useful feature of Wikipedia is the ability to tag an article or a section of an article as being the subject of a dispute about a neutral point of view. This feature is especially popular for controversial topics, topics subject to changing current events or other topics where divergent opinions are possible. To resolve the dispute, the interested editors will share their points of view on the article’s talk page. (“Who Writes”)

This statement reveals that Wikipedia repeatedly produces itself through the enactment of linguistic agonism. Additionally, as Clark’s model suggests, the written language of Wikipedia allows it to function as a designer environment that promotes the cognitive enterprises of its participants. This is, we argue, the system of knowledge production, and of thought, practiced by the sophists and reinstated by Clark.

Crucially, Wikipedia encounters the same kinds of “closures, dangers,

invasions, and constraints” that Clark identifies as problems of cyborg existence (*Natural-Born Cyborgs* 167). Indeed, Clark’s distributed cognition model and his concept of the soft self have been subject to the same kinds of criticisms. For instance, Evan Selinger and Timothy Engström have recently contended that “when agency no longer ends ‘at the skinbag’ then neither do attributions of responsibility and irresponsibility” (579). Similar charges are frequently leveled at Wikipedia because of the anonymity of its contributors and its lack of a central responsible agent. However, by examining how Wikipedia works as a social knowledge network we can see the ways that responsibility and *ethos* emerge from the productive strife fostered by its discourse code of conduct. A closer look at the workings of Wikipedia therefore provides a tangible way to address the potential problems of distributed agency that Clark identifies (and that his model is critiqued for neglecting).

Wikipedia addresses its own distributed agency through what is termed *soft security* (a term that recalls Clark’s *soft self*), a policy widely used in wiki communities. Following the doctrine of soft security, Wikipedia administrators rarely exert overt conflict resolution techniques, but rather, like Clark’s new-style business manager, seek to build a goal-driven framework that is conducive to self-regulating agonism. Wikipedia’s own information on soft security states that such systems depend primarily on decentralized control and “elaborate social security systems such as the moral network in a tightly-knit community such as a cluster of friends on a busy city street” (“Soft Security”). What enables these interactions of multiple components under common rules toward a shared goal is rhetoric. Meatball Wiki, a similar wiki community devoted to online collaboration, makes explicit the importance of rhetoric in its collective functioning, stating that soft security “works architecturally in defense to *convince* people against attacking and to *LimitDamage* [sic]. It works socially in offense to *convince* people to be friendly and to get out of the way of people *adding value*” (“Meatball Wiki,” emphasis in original). Persuasion and negotiation—rhetoric—thus underpin the productive agonism of shared knowledge-making.

One example of these policies in practice, Wikipedia’s “Great Hunger” page (which covers what is commonly called the Irish Potato Famine), is about a subject that is presumably historical and fact-based, yet it manifests the features of knowledge production that Clark and rhetoric theorists describe. Over time, the content of this entry became subject to much debate, mostly centering on the British government’s possible culpability in

the famine as well as its duration and scope. Because the page experienced frequent combative edits, debate over its content shifted to its talk page. There, key issues surrounding the topic were engaged, including the name of the page (“The Great Hunger,” critiqued by some as too “emotive,” or the “Irish Potato Famine,” critiqued by others as a neologism), the questionable neutrality of its point of view (critiqued as either anti-British or ignorant of the British government’s role in the event), and the causes of the event (generally attributed either to a potato disease or to negligence on the part of the British government) (“Talk: The Great Hunger”). This negotiation did not satisfy all of the parties, and the discourse split into contentious factions, despite the efforts of mediators to “cool the ill will between the two groups” (“Wikipedia: Requests for Arbitration/Great Irish Famine”). Ultimately, one user successfully petitioned for arbitration by Wikipedia’s Arbitration Committee, stating that “it has become obvious that the issues behind this case will not be settled unless [the Arbitration Committee] looks at it” (“Wikipedia: Requests for Arbitration”).

In keeping with this paper’s emphasis on distributed rather than centralized authority, it is crucial to reiterate that users, not specialized authority figures, instigate the sorts of litigious measures seen in the “Great Hunger” case, and users constitute the bodies that oversee them. Moreover, in keeping with a spirit of agonism and productive strife, arbitration does not address content disputes and thereby stabilize the subject matter in question, but rather it resolves conflicts stemming from participant conduct, and thus promotes the overall health of the system. Wikipedia’s information on arbitration states:

The committee accepts cases related to editors’ conduct (including improper editing) where all other routes to agreement have failed, and makes rulings to address problems in the editorial community. However it will *not* make editorial statements or decisions about how articles should read (“content decisions”). Please do not ask the committee to make these kinds of decisions, as they will not do so. (“Wikipedia: Requests for Arbitration/Great Irish Famine,” emphasis in original)

The arbitration page of the “Great Hunger” dispute records statements by invested parties, reprints applicable Wikipedia conduct principles, and reports arbitrator judgments regarding user violations (referencing the language of the principles). Penalties, most of which involve preventing cited users from being able to make edits to the subject page for a determined period, are then assessed.

This brief example suggests that the critique that Clark's model—and by association, rhetorical agonism—negates personal responsibility is somewhat unfounded. The participants in the “Great Hunger” arbitration are identified only through usernames, such as SirFozzie, sony-youth, Domer48, and Sarah777. These selves are assembled from fragments of contributed text and other media, and yet they are coherent enough to be culpable. Indeed, the user Sarah777 reacts in her arbitration statement to the possible consequences hinging on the case's outcome with indignation, and by vehemently asserting her value to the community:

I find the suggestion of a ONE YEAR BAN to be contemptible and completely OTT - and bizarre. So much over the top that I REFUSE to participate in this charade until the suggestion/threat is withdrawn. I have instigated over 300 articles and made over 7,600 edits in one year on Wiki; all on geographical topics. (“Wikipedia: Requests for Arbitration/Great Irish Famine”).¹¹

Wikipedia allows completely anonymous editing, so any penalties could be easily circumvented by not logging in, yet these distributed personas have accrued palpable *ethos*. As befitting an *agōn*, the participants have a shared communal buy-in, which establishes both collective and individual identities. To borrow language from Clark, Wikipedia, for those who participate, is lived with, worked with, and thought through (*Natural-Born Cyborgs* 58)

As a system constituted by hybridized competition/cooperation and mediated linguistically by distributed rather than centralized authority, Wikipedia embodies the principles of sophistic Greek rhetoric and evinces the model of distributed cognition espoused by Clark. Importantly, it demonstrates the viability of such principles and such a model in a way that confronts charges frequently leveled at both (namely, the difficulty of assessing responsibility and the inability to verify truth claims objectively). It confronts such challenges not by denying or resolving them, but by incorporating them as necessary components of any effort at knowledge creation.

Being Negotiated

Like a wiki page, our minds are hackable, or as Clark argues, “open to rapid influence by tricks and by new technologies” (*Natural-Born Cyborgs* 59). Knowledge and the mind are forever constructible and contestable.

Centralized control, while appealing in the service of Platonic Truth and Cartesian rationality, blinds us to the material, contingent, and agonistic nature of cognition and its complimentary institutions. The difficulties we have in grasping such entities amount to, in the language of Maturana and Varela, a sense of dizziness that “results from our not having a fixed point of reference to which we can anchor our descriptions in order to affirm and defend their validity” (240). Describing the same phenomenon and the same sensation, Clark writes, “We create supportive environments, but they create us too. We exist, as the thinking things we are, only thanks to a *baffling dance* of brains, bodies, and cultural and technological scaffolding” (*Natural-Born Cyborgs* 11, emphasis ours). This dizzying, baffling situation results from our contingent, distributed mode of thinking and being, or what 20th century rhetorician Kenneth Burke calls “the necessity of compromise” (225). Clark argues that “minds like ours are complex, messy, contested, permeable, and constantly up for grabs” (*Natural-Born Cyborgs* 10), and we are often paralyzed in the face of this disintegration. What it means to be human is dispersed across bodies, environments, a shared language, and a shared cultural heritage, all of which are open (we avoid the pejorative *susceptible*) to change. Once human being is seen in a dynamic way, change, unavoidable as it is, becomes part of a rhetorical negotiation of agonism. No longer anchored to genetic mutation as the sole source of alteration, we become wedded to each other and our institutions, each composing and comprising the generational structures we have inherited not only from our genes, but also from the contact we make with others.

Notes

¹ *Negotiate* is here used because this verb connotes physical action or movement (such as negotiating a terrain), and also language use, connection, and compromise.

² Zeller’s work was published in 1895, but as Kahn identifies, its line of thought about the central role of flux in Heraclitus’s cosmology remains influential.

³ As Bizzell and Herzberg identify, sophistry is not a specific philosophical school (22); *Sophist* is a term associated with a diverse group of itinerant 5th and 4th century BCE teachers-for-hire, such as Gorgias and Protagoras. Although these instructors covered a broad array of subjects, “Whatever area of knowledge the Sophists explored, it was clear that language—in which

Greek culture was deeply interested—was crucial to the exploration” (Bizzell and Herzberg 23).

⁴ Detienne and Vernant claim in the last sentence of their book, “Platonic Truth, which has overshadowed a whole area of intelligence with its own kinds of understanding, has never really ceased to haunt Western metaphysical thought” (318).

⁵ Although Hawhee and Gorgias refer to speech and Clark describes writing, our position is that rhetoric encompasses both modes. We acknowledge that there are important distinctions between spoken and written language, but because the main purpose of this article is to articulate productive connections between extended cognition and rhetoric differences between speech and writing have been flattened.

⁶ As will become clearer during the course of this section, we are attempting to use the term *bodies* in an appropriately broad sense.

⁷ This fear of error can be traced back, as can Descartes’s *cogito* argument, to Plato’s concept of pure forms. Error as such can only exist in a paradigm that establishes the existence of permanent objective truths. Bizzell and Herzberg point out that such binary divisions between true and false are historical rather than transcendental. The sophists operated under a cosmology that predated Plato, and that held that because human knowledge is inherently suspect, absolute truth is unobtainable; yet, probable knowledge may be vetted through challenge and revision (22).

⁸ It may be argued that those who “misuse” Wikipedia—such as the stereotypical uncritical student essay writer who seems to be the source of so much consternation over Wikipedia in academia—share an epistemology with those who critique it as flawed or error-filled. Both appear to assume that knowledge is (or should be) stable and bankable. Wikipedia’s own explicit precepts encourage continual multi-source triangulation.

⁹ It must be admitted that the Wikipedia community is not completely without authoritative figures, including founder Jimbo Wales. As such, it is possible to forward the criticism that it is a Cartesian structure with a privileged caste that, like Descartes’s rational mind, serves as a final controlling entity. However, it is crucial to keep in mind that Wikipedia’s structure, including the function of the broader community, works to prevent such figures from acting in domineering ways in opposition to the shared value system. This was potently evinced when the broader Wikipedia community chastised Wales for making changes to his own Wikipedia biography, a practice that is counter to community standards. Although Wales claimed

that his alterations were “solely intended to improve the accuracy of the content,” he acknowledged that his actions were in violation of Wikipedia’s code of conduct (“Jimmy Wales”). This incident was quickly documented in Wales’s Wikipedia biography (where it remains a prominent feature), which demonstrates the system’s agonistic functions.

¹⁰Wikipedia’s discourse framework is partially established through its code of conduct, which includes detailed information pages on etiquette (“Wikipedia: Etiquette”) and dispute resolution (“Wikipedia: Dispute Resolution”).

¹¹Sarah777’s ban on editing the “Great Hunger” page ultimately was only seven days rather than the proposed year.

References

- Bizzell, Patricia, and Bruce Herzberg. *The Rhetorical Tradition: Readings from Classical Times to the Present*. 2nd ed. Boston: Bedford/St. Martin’s, 2000.
- Burke, Kenneth. *Attitudes Toward History*. 3rd ed. Berkeley: U of California P, 1984.
- Clark, Andy. *Being There: Putting Brain, Body, and World Together Again*. Cambridge: The MIT Press, 1998.
- . *Natural-Born Cyborgs*. Oxford: Oxford UP, 2003.
- Detienne, Jean-Pierre, and Marcel Vernant. *Cunning Intelligence in Greek Culture and Society*. Trans. Janet Lloyd. Hassocks, Eng.: Harvester Press, 1978.
- Gorgias. “Encomium of Helen.” Bizzell and Herzberg 44-46.
- “The Great Hunger.” *Wikipedia: The Free Encyclopedia*. 24 June 2008. Wikimedia Foundation, Inc. 26 June 2008 <http://en.wikipedia.org/wiki/The_Great_Hunger>.
- Greenspan, Stanley G., and Stuart G. Shanker. *The First Idea: How Symbols, Language, and Intelligence Evolved From Our Primate Ancestors*. Cambridge, MA: DaCapo Press, 2004.
- Hawhee, Debra. *Bodily Arts: Rhetoric and Athletics in Ancient Greece*. Austin: U of Texas P, 2005.
- . “Kairotic Encounters.” *Perspectives on Rhetorical Invention*. Ed. Janice Lauer and Janet Atwill. Knoxville: U of Tennessee P, 2002. 16-35.
- Homer. *The Odyssey*. Trans. Robert Fitzgerald. 7th ed. New York: Farrar, Straus and Giroux, 1998.

- Isocrates. *Isocrates*. Trans. George Norlin. Ed. Jeffrey Henderson. Vol. 2. The Loeb Classical Library. Cambridge, MA: Harvard UP, 2000.
- “Jimmy Wales.” *Wikipedia: The Free Encyclopedia*. 24 June 2008. Wikimedia Foundation, Inc. 26 June 2008 <http://en.wikipedia.org/wiki/Jimmy_Wales>.
- Kahn, Charles H. *The Art and Thought of Heraclitus*. Cambridge: Cambridge UP, 1999.
- Maturana, Humberto R., and Francisco J. Varela. *The Tree of Knowledge: The Biological Roots of Human Understanding*. Boston: Shambhala, 1987.
- “MeatballWiki: SoftSecurity.” *Meatbal Wiki*. 10 Dec 2006. 10 Dec 2006 <<http://www.usemod.com/cgi-bin/mb.pl?SoftSecurity>>.
- Selinger, Evan, and Timothy Engström. “On Naturally Embodied Cyborgs: Identities, Metaphors, and Models.” *Janus Head* 9.2 (2007): 553-84.
- “Soft Security.” *Wikipedia: The Free Encyclopedia*. 5 Nov 2006. Wikimedia Foundation, Inc. 9 Dec 2006 <http://en.wikipedia.org/wiki/Soft_security>.
- “Talk: The Great Hunger.” *Wikipedia: The Free Encyclopedia*. 27 June 2008. Wikimedia Foundation, Inc. 27 June 2008 <http://en.wikipedia.org/wiki/Talk:The_Great_Hunger>.
- “User: Jimbo Wales.” *Wikipedia: The Free Encyclopedia*. 27 June 2008. Wikimedia Foundation, Inc. 27 June 2008 <http://en.wikipedia.org/wiki/User:Jimbo_Wales>.
- White, Eric Charles. *Kaironomia: On the Will-to-Invent*. Ithaca: Cornell UP, 1987.
- “Who Writes Wikipedia.” *Wikipedia: The Free Encyclopedia*. 3 Dec 2006. Wikimedia Foundation, Inc. 9 Dec 2006 <http://en.wikipedia.org/wiki/Wikipedia:Who_writes_Wikipedia>.
- “Wikipedia: Dispute Resolution.” *Wikipedia: The Free Encyclopedia*. 24 June 2008. Wikimedia Foundation, Inc. 26 June 2008 <http://en.wikipedia.org/wiki/Wikipedia:Resolving_disputes>.
- “Wikipedia: Etiquette.” *Wikipedia: The Free Encyclopedia*. 23 June 2008. Wikimedia Foundation, Inc. 26 June 2008 <<http://en.wikipedia.org/wiki/Wikipedia:Etiquette>>.

“Wikipedia: Requests for Arbitration.” *Wikipedia: The Free Encyclopedia*. 26 June 2008. Wikimedia Foundation, Inc. 26 June 2008 <http://en.wikipedia.org/wiki/Wikipedia:Requests_for_arbitration>.

“Wikipedia: Requests for Arbitration/Great Irish Famine.” *Wikipedia: The Free Encyclopedia*. 23 June 2008. Wikimedia Foundation, Inc. 26 June 2008 <http://en.wikipedia.org/wiki/Wikipedia:Requests_for_arbitration/The_Great_Hunger>.

Zeller, Eduard. *Outlines of the History of Greek Philosophy*. Trans. Sarah Frances Alleyne and Evelyn Abbott. New York: Longmans, Green, and Co., 1895.