The Aesthetics of Human Experience: Minding, Metaphor, and Icon in Poetic Expression

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Abstract This paper argues that the cognitive sciences need to incorporate aesthetic study of the arts into their methodologies to fully understand the nature of human cognitive processes, because the arts reflect insights into human experience that are unobtainable by the methodologies of the natural sciences. These insights differ from those acquired by scientific exploration, because they arise not from the conceptual logic of reason but from the precategorial intuition of imagination. Aesthetics provides a methodology whereby we are able to understand how art enables us to experience emotions caused by sense impressions. This methodology lies at the heart of Giambattista Vico's *Principi di scienza nuova* (1725–44), which attempts to account for the way we live and participate in cultural, social, and civic communities. Vico's theory challenges certain Western philosophical presuppositions that still inform much of cognitive science, such as the relation of language to our experience of the natural world, the nature of subjective and objective representations, and the role of the arts in the evolutionary development of the human mind. In basing my approach to literature on Vico's, Susanne K. Langer's (1953, 1967), and Maurice Merleau-Ponty's (1962 [1945], 1968) theories, I argue that the language of literature is distinguished from conventional language use by its imaginative use of aesthetic patterns that make manifest the inherent character of the external world a we experience it. By introducing the concepts of minding, metaphor, and icon as structures of the imagination, I show how the language of poetic expression in Matthew Arnold's poem "Dover Beach" enables us to apprehend the ways we intuitively par-

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ticipate in the reality that underlies our conscious experience. Such participation occurs because sensory impressions of the world we experience cause modifications in the human mind that result in affective responses. Current research in the cognitive sciences increasingly indicates that such modification occurs; aesthetic study of the arts provides a means whereby we can know what it is like to experience such modifications.

1. Introduction

Aesthetic inquiry and scientific inquiry are two parallel and complementary ways of knowing. The reality of the world that scientists and artists explore is the same; the approach they take results in a different kind of knowledge: the difference between "to know" and "to be wise," *conoscere* and *sapere*, *connaître* and *savoir* (Carr 1917: 193). Science encompasses knowledge of the natural world through systems based on mathematics and logic; aesthetics encompasses knowledge of human creativity, culture, and civilization through systems based on expressions of sensory perceptions and values. The two intersect at the point of the cognitive sciences, whose interdisciplinary fields explore the activities of the human mind and human behavior. As cognitive scientists explore the workings of the human mind, they are faced with the challenge of accounting for the functions of intuition, memory, emotion, sensory perception, and imagination in the way we think. Are the methods of the natural sciences adequate to explaining them?

Over two hundred years ago, the Italian philosopher Giambattista Vico thought not.[1] In criticizing René Descartes's (1909–14 [1637]) discourse on scientific method, Vico (1990 [1709]) argued for a new science (*scienza nuova*), one with different theoretical bases and methodologies that would lead to better understanding of human thought and behavior. Although Vico focused primarily on explaining the historical course of human civilizations, the principles of his new science also apply to an understanding of aesthetics as the science of sensory perception. Vico believed that poetic wisdom (*sapienza poetica*) was the source of all knowledge, that it could be found in the "imaginative universals" (*universale fantastico*) held in common by the memory of people in all cultures and across centuries.[2] Whereas

1. Vico published the first edition of *New Science* in 1725. For the second edition in 1730, only three passages from the first edition were retained, to be printed within the second *New Science*. The third and final edition, published in 1744 just before Vico's death, is considered Vico's definitive edition (Verene 2003: 157–63).

2. Vico uses the phrase "imaginative universals" in three places to describe Jove as a divine character "born naturally in poetry" (Vico 1948 [1744]: 107, §381), poetic fables which preceded "rational or philosophic universals" (ibid.: 138, §460), and the written hieroglyphic characters "used by all nations in their beginnings" (ibid.: 307, §933).

Descartes explores the reliability of the images that come to us through sense experience, Vico asks how we come to have those images in the first place, how they are made present to the mind.

Human thought began, Vico believed, not with the development of rational concepts but with that of memory and imagination.[3] In making this argument, Vico places aesthetics at the very beginning of human conceptual development.[4] The question for us then becomes, Can the two different methodologies of aesthetics and science be understood as complementary models that may be conjoined or interrelated to provide a fuller understanding of human activity in all its forms, including the arts?

I believe they can. Increasingly, the findings of the cognitive sciences in such areas as psychology, linguistics, and studies of the human brain concerning sensory perception and emotion complement Vico's new science and support the findings of scholarly research into the various arts.[5] Knowledge of the arts, in both artistic creation and reception, provides insight into the mind's activities that involve human feeling. A great deal of current research explores the relation of aesthetics and cognitive science, and it is not my intention here to go into the different theoretical approaches taken.[6] Instead, I focus on aspects of aesthetics that challenge certain presuppositions regarding the nature and role of poetry, such as its

3. "In that human indigence, the peoples, who were almost all body and almost no reflection, must have been all vivid sensation in perceiving particulars, strong imagination in apprehending and magnifying them, sharp wit in referring them to their imaginative genera and robust memory in retaining them. It is true that these faculties appertain to the mind, but they have their roots in the body and draw their strength from it" (ibid.: 280, §819).

4. The word *aesthetics* was coined by Alexander GottliebBaumgarten (2007 [1750]) to refer to the science of sensory perception, including the arts. Although Mark Turner (1996) has persuasively argued for the role of imaginative storytelling in the origins of human thought, the idea that poetry came later in human development and served merely as play behavior, to provide a safe place in which to explore discomforting feelings, can still be found in recent work in cognitive science, such as Boyd 2009. The notion of "play" in this respect is misleading. As James P. Carse (1986: 19) notes: "There is, however, a familiar form of playfulness often associated with situations protected from consequence—where no matter what we do (within certain limits), nothing will come of it. This is not so much playing as *playing at*, a harmless disregard for social constraints." To define art within the constraints of "playing at" is to ignore its role in the infinite play of life.

5. Researchers in the cognitive sciences are increasingly turning toward aesthetics as an important factor in understanding the workings of the human mind. Dustin Stokes's (2009) article "Aesthetics and Cognitive Science" surveys some of the issues involved and contains a preliminary bibliography of the burgeoning research in this area. Working from the perspective of cognitive poetics, Reuven Tsur (1992, 2008) shows in his analyses how aesthetic effects in poetry are supported by the findings of cognitive psychology and neuroscientific research into brain structures.

6. One useful if brief account of some of these approaches is in Stokes 2009. Li-Hsiang Hsu provides a useful bibliography, Aesthetics and Cognitive Science, http://philpapers.org/browse/aesthetics-and-cognitive-science (accessed October 12, 2011).

place in the development of the human mind, the Western notions of subjective and objective representation, and the relation of language to the natural world. In realigning these issues into positions closer to a theory of aesthetics that embraces sensory perception and emotion in poetry, I argue that understanding the cognitive activities of minding, metaphor, and iconicity can illuminate the nature of poetic expression and our experience of it. In my analysis of Matthew Arnold's poem "Dover Beach," I apply Vico's arguments in his new science that relate to aesthetics by revising the way we metaphorically construct "mind" as object and by understanding the role of the imagination in creating meaning. This goes to show how poets create an aesthetic language to break through the conventional uses of discursive language, which conceal our underlying, precategorial responses to the world we experience.

Vico makes several important points for a science of aesthetics. These are, in no particular order:

1. As "the first humans" experienced and responded to repeated sensory episodes, such as thunder, mental "places," or topoi, were developed that enabled memory of "sameness."[7]
2. Memory (Latin *memoria*) is equivalent to imagination, which enabled "sameness" to be interiorized as mental image, which, being "named," gave rise to conceptualization of thought or reasoning.[8]
3. Language began with inscribing physical signs (not with speech).[9]

7. "The first men, who spoke by signs, naturally believed that lightning bolts and thunder claps were signs made to them by Jove; whence from *nuo*, to make a sign, came *numen*, the divine will, by an idea more than sublime and worthy to express the divine majesty. They believed that Jove commanded by signs, that such signs were real words, and that nature was the language of Jove" (Vico 1948 [1744]: 106, §379).

8. "The first founders of humanity applied themselves to a sensory topics, by which they brought together those properties or qualities or relations of individuals and species which were so to speak concrete, and from these created their poetic genera. So that we may truly say that the first age of the world occupied itself with the primary operation of the human mind." (ibid.: 149, §§495–96). Donald Phillip Verene (1981: 170) comments on this passage as follows:

> Vico's notion of a "sensory topics," a *topica sensibile*, is tied to his conception of sensibility as a way of thinking—the notion that when sense takes the form of the imaginative universal in the *fantasia* of the first men, it is a kind of thought. A sensory *topos*, as Fisch points out in a remark on this passage, is related to Aristotle's conception of topics, or places, that could be kept in the mind and serve for the inventing of possible arguments. (Fisch, Introduction, *New Science*, par. K5, note) *The fundamental difference is that the sensory topos is achieved through feeling and not achieved as an element within discursive thought*. (My emphasis)

9.

> But the difficulty as to the manner of their origin [i.e., letters and writing] was created by the scholars themselves, all of whom regarded the origin of letters as a separate question from that of the origin of languages, whereas the two were by nature conjoined. And they should have

4. Philology, the historical meanings of words, in particular the exploration of etymology, reveals that conceptualization of thought or reasoning arose originally from natural connections between physical nature and bodily interaction with the environment.[10]
5. Poetic thought arose from metaphorically attributing human senses and passions to inanimate objects.[11]
6. The poetic mind preceded abstract conceptualization and reasoning.[12]
7. The natural sign systems of poetic forms created through memory and imagination formed the basis from which more abstract conceptualization developed.[13]

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made out as much from the words for grammar and for characters. From the former, because grammar is defined as the art of speaking, yet grammata are letters, so that grammar should have been defined as the art of writing. So, indeed, it was defined by Aristotle, and so in fact it originally was; for, as will here be shown, all nations began to speak by writing, since all were originally mute. The word character, on the other hand, means idea, form, model, and certainly poetic characters came before those of articulate sounds. . . . But, giving up hope of knowing how languages and letters began, scholars have failed to learn that the first nations thought in poetic characters, spoke in fables, and wrote in hieroglyphics. These should have been the principles, which must by their nature be most certain, of philosophy in its study of human ideas and of philology in its study of human words. (Vico 1948 [1744]: 124–25, §429)

10.

The philosophers and philologians should all have begun to treat of the origins of languages and letters from the following principles, (1) That the first men of the gentile world conceived ideas of things by imaginative characters of animate and mute substances. (2) That they expressed themselves by means of gestures or physical objects which had natural relations with the ideas; for example, three ears of grain, or acting as if swinging a scythe three times, to signify three years. (3) That they thus expressed themselves by a language with natural significations." (Ibid.: 125–26, §431)

11.

That first language, spoken by the theological poets, was not a language in accord with the nature of the things it dealt with (as must have been the sacred language invented by Adam, to whom God granted divine onomathesia, the giving of names to things according to the nature of each), but was a fantastic speech making use of physical substances endowed with life and most of them imagined to be divine . . . when we wish to give utterance to our understanding of spiritual things, we must seek aid from our imagination to explain them and, like painters, form human images of them. But these theological poets, unable to make use of the understanding, did the opposite and more sublime thing: they attributed senses and passions, as we saw not long since, to bodies, and to bodies as vast as sky, sea and earth. (Ibid.: 114–15, §§401–2)

12. "All that has been so far said here upsets all the theories of the origin of poetry from Plato and Aristotle down to Patrizzi, Scahger [*sic*] and Castelvetro. For it has been shown that it was deficiency of human reasoning power that gave rise to poetry so sublime that the philosophies which came afterwards, the arts of poetry and of criticism, have produced none equal or better, and have even prevented its production" (ibid.: 108, §384).

13.

From all this it appears to have been demonstrated that, by a necessity of human nature, poetic style arose before prose style; just as, by the same necessity, the fables, or imaginative universals, arose before the rational or philosophic universals which were formed through the medium of prose speech. For after the poets had formed poetic speech by associating par-

Before human memory, there was only a flux of sensations and responses; there existed no "place in the mind," no *topos* which would contain the idea of their repetition. Sensory *topoi* developed when the first humans discovered sameness in repetition. Thus, Vico says, when humans experienced fear repetitively in responding to thunderstorms, a sensory *topos* created a memory that enabled meaning to emerge by imaginatively creating an identification first between the emotion of fear and the sensation of thunder and then between the image of thunder and the name given to thunder, Jove (see note 7). This imaginative identification is internal to the mind, unlike the logical functions of induction and deduction, which are predicated on objectifying perceptions of the external world. It reflects the more basic, primordial, precategorial level of emotion and sensory memory of Maurice Merleau-Ponty's (1962 [1945]) phenomenology and the more recent understanding of the cognitive unconscious (Damasio 2010).

Vico's (1948 [1744]: 280, §819) theory accordingly explains the role of memory, invention, and imagination in developing human thought: "Memory thus has three different aspects: memory [*memoria*] when it remembers things, imagination [*fantasia*] when it alters or imitates them and invention [*ingegno*] when it gives them a new turn or puts them into proper arrangement and relationship." Memory, as the blend of *memoria*, *fantasia*, and *ingegno*, is understood, then, as forming wisdom, "the faculty which commands all the disciplines by which we acquire all the sciences and arts that make up humanity" (ibid.: 98, §364). Whereas logic *manipulates* its terms through the functions of induction and deduction, the imagination *creates* them by *metaphorically* fusing sensory and emotional *topoi* into one:

> The most luminous and therefore the most necessary and frequent [trope] is metaphor. It is most praised when it gives sense and passion to insensate things, in accordance with the metaphysics above discussed, by which the first poets attributed to bodies the being of animate substances, with capacities measured by their own, namely sense and passion, and in this way made fables of them. *Thus every metaphor so formed is a fable in brief.* (Ibid.: 116, §404; my emphasis)

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ticular ideas, as we have fully shown, the peoples went on to form prose speech by contracting into a single word, as into a genus, the parts which poetic speech had associated. Take for example the poetic phrase, 'the blood boils in my heart,' based on a property natural, eternal and common to all mankind. They took the blood, the boiling and the heart, and made of them a single word, as it were a genus, called in Greek *stomachos*, in Latin *ira* and in Italian *collera*. Following the same pattern, hieroglyphics and heroic letters were reduced to a few vulgar letters, as genera assimilating innumerable diverse articulate sounds; a feat requiring consummate genius. By means of these vulgar genera, both of words and of letters, the minds of the peoples grew quicker and developed powers of abstraction, and the way was thus prepared for the coming of the philosophers who formed intelligible genera. What has here been discussed is a small portion of the history of ideas. To such an extent has it been necessary, in seeking the origins of letters, to deal in the same breath with those of languages!" (Ibid.: 139–39, §460)

According to Vico, then, conceptual thought first arose from metaphor—not the conceptual metaphor of analogy but the sensory metaphor of attribution or identity. Contemporary theories of metaphor (Lakoff and Johnson 1980; Fauconnier and Turner 2002) do not make this distinction, seeing metaphor in general as analogically and conceptually based. Examples of conceptual metaphors are LOVE IS A JOURNEY OR THAT SURGEON IS A BUTCHER.[14] By contrast, Vico says that when human beings first developed the metaphor "JOVE IS THUNDER" they were not finding similarity or comparing Jove with thunder but were attributing existential, sensory identity between thunder and Jove. This distinction between analogical and attributive reasoning lies, I believe, at the heart of the difference between science and aesthetics. Aesthetics provides a methodology whereby we are able to understand how art enables us to experience emotions caused by sense impressions and thus uncover insights into the primary workings of the human mind.

As Vico's new science indicates, the methodologies of the natural sciences and of aesthetics are not the same. In commenting on biologists who attempt to apply scientific principles to the exploration of art, Susanne K. Langer (1967: 243–44) notes:

> Their purpose is to penetrate the mysteries of art with the help of their biological knowledge; mine is to gain some biological and psychological insights through the suggestiveness of artistic forms. A symbol always presents its import in simplified form, which is exactly what makes that import accessible for us. No matter how complex, profound and fecund a work of art—or even the whole realm of art—may be, it is incomparably simpler than life. So the theory of art is really a prolegomena to the much greater undertaking of constructing a concept of mind adequate to the living actuality.

In calling for "a concept of mind adequate to the living actuality," Langer suggests, like Vico, that one cannot fully understand the workings of the human mind without taking into consideration the structures of aesthetic experience. Understanding these structures, however, as they apply to literary creativity depends on two radically different notions of how human language relates to the natural world: either nature is totally independent of language or language makes nature manifest. In the next section therefore, I elaborate on this difference to introduce my theory of poetic iconicity.

14. CAPITALIZATION IS USED IN CONCEPTUAL METAPHOR THEORY to distinguish conceptual from linguistic metaphor. For example, the linguistic metaphor "we have reached a crossroad in our relationship" is based on the conceptual metaphor LOVE IS A JOURNEY.

2. Language, Nature, and Mind

Vico's theory of the origins and development of language as arising from natural connections between physical nature and bodily interaction with the environment stands in sharp contrast to traditional Western views that focus on the arbitrary nature of language. As Stephen Owen (1985: 79), the classical Chinese scholar, has noted: "There is language; there is something that precedes and transcends language; between language and that 'something,' two relations are possible, and the distinction between them corresponds to a fundamental division in human concepts of nature. Either nature is independent of language, and language only blocks and distorts our knowledge of it; or the form and distinctions of language derive from nature and grant us the most perfect access to it."

Attributing the idea that there is a "truth beyond language" (and therefore inaccessible by it) to Western philosophy, Owen (ibid.: 21) claims that "Western theories of literature are the children of the Platonic critique, and though they rebel and marry into less tainted lines, they cannot escape their ancestry." Chinese classical poetics, to the contrary, seeing human beings as an integral part of the natural world, considers the "aesthetic pattern" (*wen*) of literary language as "the final stage in a process of manifestation; and the writer, instead of re-presenting the outer world, is in fact only the medium for this last phase of the world's coming-to-be" (ibid.: 20). What literary language makes manifest, according to Chinese poetic theory, is "direct presentation of the physical world" and "authentic presentations of historical experience" (ibid.: 57).

Rather than adopting the "either/or" perspective suggested by Owen's comparison of Western and Chinese thought, I suggest that it is not language per se that blocks or enables our experience of nature but the way language is used. *Blocking* and *enabling* refer to Leonard Talmy's theory of force dynamics as an explanation of causation. According to Talmy (2000: 10), force dynamics describes what happens when the energy or force of one object or entity blocks or allows the energy or force of another to occur. For example, a dam causes the buildup of water in a reservoir by blocking its normal flow; a steep hillside accelerates the flow of a mountain stream by causing the water to fall rapidly. In like manner, the development of abstract thought by naming or reifying sensory feelings and events allowed a rapid acceleration of conceptual reasoning but at the cost of blocking or concealing its origins (see note 13). Following Vico's understanding of the emergence of conceptual thought and Talmy's theory, I argue that the conceptual reification that marks discursive language serves to block the underlying, preconscious experiences of the working mind.

The term *mind* is itself an example. Having reified the cognitive activities of the brain through nominalization, we tend to assume the existence of mind as an entity, which can then be conceived metaphorically as a container: we can bring things to mind, we can keep things in our minds, and so on. In fact, it is hard not to speak in this way. It is much more efficient and economical to speak of "mind" as though it were an entity than it is to characterize the actual cognitive events that the word refers to. It is precisely this ability to conceptualize and to abstract from the experience of sensory and emotional expression that led, as Vico argues, to the development of human thought. But in reifying the mind, we are blocking or concealing those underlying forces. Literary language, to the contrary, as Reuven Tsur (1992: 360–61; 2008: 577, 585) has shown, serves to slow down such cognitive economy by delaying conceptual categorization. Delaying conceptual categorization enables us to draw closer to the phenomenological world of immediate, preconceptual experience. In other words, the aesthetic pattern (*wen*) of literary language allows access to the precategorial activities of the mind that Vico describes as attributing senses and passions to the external world and thus makes manifest the "coming to be" of the experienced world. To capture this aspect of our cognitive capacities, I propose the term *minding* for the cognitive workings of the mind that include the sensory and emotional as well as the rational, a mindfulness that is aware of our surroundings, attentive to and caring about the way we experience and conceptualize our world through our sensory perceptions and emotions (Freeman 2009).[15] Using language aesthetically makes manifest the inherent character of the experienced world and our response to it. When poetic language succeeds in making the "coming to be" of the world manifest and evoking an emotional response to it, then, I claim, poetic iconicity is achieved, as I describe in the following section.

3. The Ontology of Poetic Perception as Iconic of Reality

Although poets in the Western tradition cannot, in Owen's (1985: 21) words quoted in the previous section, "escape their ancestry," they nevertheless have an intuitive understanding of *wen*, of language as aesthetic pattern, that reveals the intrinsic, natural relationship of words to our experience of nature that Vico describes. Poets and writers speak in terms of art and poetry as a "vision of reality" (Yeats 1918: 13),of "thinginess, or *Dinge* in

15. Cognitive psychologists emphasize the importance of "mindfulness" (paying attention to the present moment with a sense of interest and curiosity) in decreasing stress and improving overall health (E. J. Langer 1989).

their *Dinglichkeit*" (Ransom 1938:112–13), of "the object as it really is" (Eliot 1964: 82–83). Anthony Hecht (1995: 130) speaks of poetry as capturing "the rich complexity of actuality—the unsimplified plenitude of the objective world." These writers suggest that art has the capacity to conjure up the feelings of experiencing the concrete, precategorial world as it is before the mind conceptualizes it. Joseph Conrad (1947: 705–8), in his preface to *The Nigger of the Narcissus*, expresses succinctly this notion of poetic art:

> A work that aspires, however humbly, to the condition of art should carry its justification in every line. And art itself may be defined as a single-minded attempt to render the highest kind of justice to the visible universe, by bringing to light the truth, manifold and one, underlying its every aspect. It is an attempt to find in its forms, in its colors, in its light, in its shadows, in the aspects of matter and in the facts of life, what of each is fundamental, what is enduring and essential—their one illuminating and convincing quality—the very truth of their existence. . . . My task which I am trying to achieve is, by the power of the written word, to make you hear, to make you feel—it is, before all, to make you *see*. That—and no more, and it is everything.

Conrad's task is what Victor Shklovsky (1965: 12) calls making "the stone stony." As Aristotle (1995) first argued in chapter 9 of the *Poetics*, whereas discursive language abstracts from the particularities of detail to capture what they have in common, aesthetic language does the opposite: it captures the essence of the particular individuality of experienced reality.

3.1. Intuitions and Concepts

By focusing on the particularities of experience, artists attempt to capture what Benedetto Croce calls intuitions. Intuition is a necessary a priori component in the development of concepts.[16] As Croce notes:

> What is knowledge by concepts? It is knowledge of the relations of things and the things are intuitions. Without intuitions concepts are not possible. Just as without the matter of impressions intuition itself is not possible. This river, this

16. In philosophy, the term *a priori* does not indicate temporal precedence but rather refers to a proposition that "can be known independent of any experience other than the experience of learning the language in which the proposition is expressed, whereas a proposition that is knowable a posteriori is known on the basis of experience" (Jason S. Baehr, "A Priori and A Posteriori," *Internet Encyclopedia of Philosophy*, www.iep.utm.edu/apriori/#H3 [2006]). However, as Baehr notes, the definition is controversial, since it is a question of how to define the "experience" on which the distinction is grounded. My use of "necessary a priori" attempts to capture the independent status of the aesthetic: "If we have shown that the æsthetic form is altogether independent of the intellectual and suffices to itself without external support, we have not said that the intellectual can stand without the æsthetic. To describe the independence as *reciprocal* would not be true" (Croce 1953 [1902]: 22).

> lake, this brook, this glass of water, this rain, are intuitions, the concept is water, not this or that appearance or particular instance, but water in general, in whatever circumstances of place or time it is realized, the matter of infinite intuitions, but of one constant concept only. (Quoted in Carr 1917: 81)

Croce's use of the term *intuition* seems functionally related to the way "image" is differentiated from "concept" in cognitive linguistics. Although image schemata are, unlike intuitions, generalized forms, by providing, in Mark Johnson's (1987: 168) words, "relations in a shared basis of meaning," they "make concepts and propositions possible." A sensory impression is preconscious, becoming an image in the mind when the experiencer becomes aware of it and a concept when it becomes generalized through abstraction. The repeated word *this* in Croce's list of intuitions draws attention to the fact that he is referring to particular physical entities. The words *river*, *lake*, *brook*, and so forth are concepts in the sense that they are generalized from the specific thing you might actually be looking at or plunging into. (Proper names help distinguish this difference—Leaping River in China, for example, or Lake Geneva in Switzerland.) But I suggest they are not yet concepts in the sense that "water" is a concept, which is even more of a generalization/abstraction. At the furthest extreme of scientific abstraction, water is represented, both notationally and analytically, as H_2O. Through science, we know the constitution of water; through aesthetics, we know what it means to experience it. When we see a lake, we both experience it as an intuition in Croce's sense and recognize it as a concept, a body of water. In this way, both the experiential fact of an image and its conceptual value are compressed in its representation.[17]

Since intuitions are always of sensations and impressions, Croce (1953 [1902]: 10) identifies artists not by a special kind of intuitive faculty but by the fact that they are able to capture the qualities of sensation and impression: "The painter is a painter, because he sees what others only feel or catch a glimpse of, but do not see. We think we see a smile, but in reality we have only a vague impression of it, we do not perceive all the characteristic traits of which it is the sum, as the painter discovers them after he has worked upon them and is thus able to fix them on the canvas." Croce's description suggests that it is the activity of making (*poesis*) that leads to the discovery of the nature of reality. Knowing through making is in this sense an aesthetic, not scientific, activity.

17. Fauconnier and Turner's (2002: 322–325) blending theory identifies compression as a governing principle for conceptual integration.

3.2. Aesthetic Iconicity

Vico places the human knowledge that occurs through Croce's "making" within the "modifications of the human mind" and so anticipates the study of aesthetics as the science of human cognitive activity.[18] The arts hold a special place in this general notion of aesthetics because they attempt to capture human sensory experience of the external world. By focusing on the concrete forms or qualia of "the visible universe," the arts capture lived experience through the fusion of concepts with the sensations and emotions that constitute feeling. When they are successful in doing so, they create what I call an "icon" of reality (Freeman 2007). "Aesthetic iconicity" is my term for this characteristic of all successful art forms, "poetic iconicity" my term for the literary arts.

The theory of aesthetic iconicity draws from two different ways of understanding the term *icon*. In its scientific, Peircean semiotic sense of icon, all direct representations of ideas may be said to be iconic.[19] In popular usage, the term *iconic* refers to anything—from photographs of war to New York taxicabs—that triggers a particular resonance in the mind in response to some experienced reality.[20] That is, some thing or some

18. Vico (1948 [1744]: 109, §331) notes:

> But in the night of thick darkness enveloping the earliest antiquity, so remote from ourselves, there shines the eternal and never-failing light of a truth beyond all question: that the world of civil society has certainly been made by men, and that its principles are therefore to be found within the modifications of our own human mind. Whoever reflects on this cannot but marvel that the philosophers should have bent all their energies to the study of the world of nature, which, since God made it, He alone knows; and that they should have neglected the study of the world of nations or civil world, which, since men had made it, men could hope to know.

19. For Charles Sanders Peirce, an iconic representation (hypoicon) can take the form of image, diagram, or metaphor. He writes: "Hypoicons may be roughly divided according to the mode of Firstness of which they partake. Those which partake of simple qualities, or First Firstnesses, are *images*; those which represent the relations, mainly dyadic, or so regarded, of the parts of one thing by analogous relations in their own parts, are *diagrams*; those which represent the representative character of a representamen by representing a parallelism in something else, are *metaphors*" (Peirce 1955: 105, *Collected Papers* 2.274–302). Since he believes that "the only way of directly communicating an idea is by means of an icon," then a diagram is a representation "even although there be no sensuous resemblance between it and its object, but only an analogy between the relations of the parts of each" (ibid.).

20. Mayor Michael Bloomberg was quoted in the press as saying that the taxicab was a New York icon. Examples of usage are too numerous to quote. Anything can become iconic, as the following quotation about E. M. Forster shows: "Forster's timid sexual exploits seem inconsequential rather than iconic" (*New Yorker* 2010: 137). Over the past decade, the terms *icon* and *iconic* have become extremely fashionable in everyday discourse. Hardly a day passes but I come across such usage in newspaper and magazine articles. Examination of the British National Corpus and other databases would document the rise and usage of such expressions. Although I was not able to access these sources for this essay, I did consult a new corpus developed by Jean-Baptiste Michel et al. (2011), who describe their project as follows: "We constructed a corpus of digitized texts containing about 4% of all

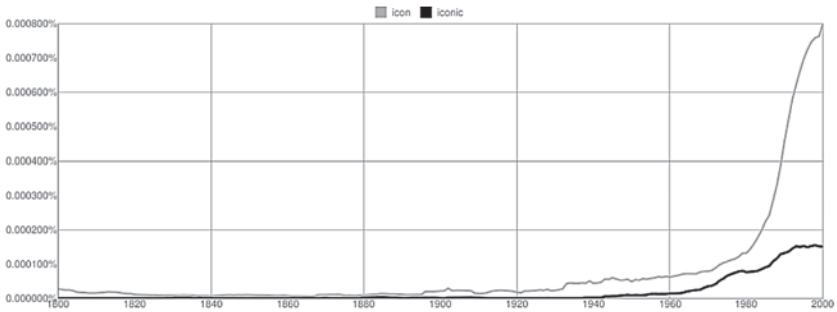

Figure 1 A graph generated by Google Books Ngram Viewer, from 1800 to 2000. "When you enter phrases into the Google Books Ngram Viewer, it displays a graph showing how those phrases have occurred in a corpus of books (e.g., 'British English,' 'English Fiction,' 'French') over the selected years." http://ngrams.googlelabs.com/graph?content=icon%2C+iconic&year_start=1800&year_end=2000&corpus=0&smoothing=3.

The *x* axis indicates percentage occurrence, the *y* axis yearly span. Both curves for the terms *icon* and *iconic* show exponential usage increase in the second half of the twentieth century.

event becomes iconic when it takes on symbolic significance for a person, a group, a nation, or a culture. In this sense, iconicity indicates the special status an object, image, person, or event has acquired in potentially achieving universal significance, becoming an archetype in the collective memory of humankind. From semiotics, aesthetic iconicity takes the isomorphic qualities of the sign; from popular usage, it takes the motivating impulses of significance (Freeman 2007). However, poetic iconicity is not simply something semiotically inherent within a literary text, nor does it reflect simply the significance attached to things or events. Poetic iconicity is the means whereby the poet manipulates the semiotic iconic features inherent in language to capture the essence of an experience. Iconicity in this sense differs from its semiotic meaning in being not the direct representation of an idea but the semblance of an ontological reality. Iconicity provides a means for expressing the world of the senses before the conceptualizing mind moves us toward abstraction. It is, in Merleau-Ponty's (1962 [1945])

books ever printed. Analysis of this corpus enables us to investigate cultural trends quantitatively" (www.sciencemag.org, December 29, 2010). The *n*-gram (consecutive sequences of *n* characters) I ran through Google Books Ngram Viewer for the terms *icon* and *iconic* reflects increased usage up to the year 2000, not including references in magazines and newspapers. In the past decade, there has been an exponential increase in such usage. Although the *n*-gram corpus cannot reveal the meanings ascribed to the terms, my informal record shows overwhelmingly that the terms are being used in their popular, not semiotic, sense.

terms, our primordial experience of precategorial being that underlies the structure of reality. This reality is usually "in-visible" to us, not as absence or void but as being hidden in the visible but always present in the moment (Merleau-Ponty 1968). Like meaning, poetic iconicity is a dynamic process the reader constructs that is triggered by the writer's intentions as revealed through forms "expressive of human feeling" (Langer 1953: 51). In my definition, then, aesthetic iconicity is related to Vico's imaginative universals. For example, the fisherman that frequently appears in classical Chinese art and poetry (especially Tang poems and Ci poems of the Song dynasty) is the actual, particular figure in the poem or painting, but at the same time it represents in Chinese cultural tradition the artist or the artist's ideal of being secluded from the imperial court. In this sense the image of the fisherman is archetypal. But in each individual artist's poem, according to Tan Yingwen (personal communication), "it may carry some unique characteristics like harboring his [the poet's] lofty belief as the one in Liu Zongyuan's *River Snow* or mentality of leisure and comfort as in Zhang Zhihe's *Fishing Song*."[21] In poetry, words are made to work not discursively, to create meaning, but aesthetically, to capture the precategorial essence of experience that makes a poem an icon of felt reality.

The distinction between discursive and aesthetic language is exemplified in the contrast between two recent translations (see Bowersock 2009) of an epigram by Marcus Valerius Martialis (Martial):

> Dum Phaethontea formica vagatur in umbra,
> Inplicuit tenuem sucina gutta feram.
> Sic modo quae fuerat vita contempta manente,
> Funeribus facta est nunc pretiosa suis.
> (Martialis 1823: 434–35)

The word *epigram* comes from the Greek ἐπίγραμμα (*epigramma*), inscription, and from ἐπιγράφειν (*epigraphein*), meaning to write on or inscribe. This reflects Vico's observation that language may have arisen from the physical form of written characters. Martialis's epigram refers to a natural occurrence whereby tree resin is fossilized into the precious stone amber. In its liquid state, when amber exudes from the tree, it sometimes encases small insects or flowers before it hardens. This hardening process takes millions of years, so that in its own fossilizing it fossilizes whatever is caught in it,

21. I am grateful to Tan Yingwen for clarifying the iconic representation of the fisherman in Chinese poetry. Tan (personal communication) notes that the poet-fisherman imagines "that he can retire from the imperial court, and so distance himself from the annoying competition or fight against others for wealth, power or reputation, which is called guī yǐn (归隐). This ideal is in striking contrast with chū shì (出仕), scholar-bureaucrats' mainstream ideal, that is, being recruited as a government official."

which is itself therefore millions of years old. According to one mineraloid website, "The odd inclusions that are often seen in amber usually add to amber's unique look and in many cases greatly increase its value" (Amethyst Galleries 1995–2011). In Martialis's epigram therefore, the story it tells blends the fate of the ant encased (inscribed) in amber with the moral that death can make precious what life despised.

D. R. Shackleton Bailey (Martialis 1993) translates the epigram almost word for word into discursive prose: "As an ant was wandering in Phaethonic shade, a drop of amber enfolded the tiny creature. So she that was despised but lately while life remained has now been made precious by her death" (quoted in Bowersock 2009: 37).

A more recent translation by Garry Wills (Martialis 2008) has a pithier, more poetic quality:

> A drop of amber hit an ant,
> While crawling past a tree,
> A brief and trifling thing preserved
> For all eternity.
> (Quoted in Bowersock 2009: 37)

Both translations preserve the two-part structure of Martialis's original epigram. First we are given a description of the event, then we are invited to consider its significance. Shackleton Bailey's translation directly captures Martialis's conceptual alteration of attitude toward the ant from being despised in life to being made precious in death. It does not attempt to replicate the aesthetic effects of the original prosody. In Latin, the "inscribing" of the ant is rendered in a ponderous metrical form with many polysyllabic words, a form that humorously throws into relief the insignificance of its subject. Although Shackleton Bailey's prose translation uses Latinate-derived words, it does not capture the feeling that Martialis's original poetic form communicates. Wills's translation transforms the original into a poetic form that is quite different from the original Latin but takes advantage of the aesthetic possibilities of English. The meter he chose is based on ballad meter, which has the virtue of being ancient and memorable. Instead of the ponderous written quality of the original epigram, Wills's translation depends for its aesthetic effects on its oral quality, with its short monosyllables and the predominance of the explosive-sounding /t/ consonant. These sound effects occur in the transitive verb *hit*, so that we feel more directly the impact of fate on the ambered ant, just as we feel the impact of the apple that dropped on Isaac Newton. The progressive use of "crawling" gives us a sense of the event as it is happening. (If the second line is altered to read "While past a tree it crawled," one can feel the

difference.) The suffixes of the two-syllable words, *amber*, *crawling*, *trifling*, carry the weakest possible stress and thus throw into greater contrast the word *presérve* with its major stress on the second syllable. "Preserve" is also a more indirect choice than Shackleton Bailey's "made precious," so that we are drawn into active interpretation, since we have to make the additional connection that we only preserve that which we value. The term *preserve* also carries with it the notion of conservation, the idea of the ant fossilized. The poem climaxes on the last word, *etérnity*, with its stressed vowel echoing that of *preserve*, and its four syllables, the longest word in the poem, mirroring the length of eternity.

These suprasegmental effects of syllables and sounds in Wills's translation complement the way the words are working. The preserving of the ant in amber reflects the nature of the epigram itself as inscription. The physicality of burial is captured in Wills's choice of the word *preserved*, reflecting Martial's *funeribus* more specifically than had Martial chosen *mortibus*, Shackleton Bailey's "death." It is not the death but the burial of the ant that has occasioned the epigram. Note that the scope of the appositional phrase "a brief and trifling thing" is conceptually ambiguous. On one level, the phrase obviously refers to the ant, a lowly, inconspicuous insect with a brief life span. But it can also refer to the event, that is, the entire preceding two lines. Not only is the ambered ant preserved for all eternity, but its story is too. In other words, the ambered ant contains within its fossilized preservation the history of the event, and the forensic geologist who discovers the fossil may "read" its inscribed story accordingly, just as we do in reading the poem. Shackleton Bailey (and perhaps Martial too) is reporting an event as it actually happened. Wills is making the language of his poem enact it. The drop falls, the ant is ambered, and the story is preserved. As we read, the poem dramatizes for us its happening in an eternal present.

This moment of being in the eternal present for both ant and poem marks the archetypal occurrence of poetic iconicity. Wills's "for all eternity" reinforces this aesthetic meaning. The word *eternal* has two meanings. For the sciences, all necessary propositions are eternal in the sense that they are independent of time—they are unchanging, true for all time, as opposed to existential (contingent) propositions. For aesthetics, as Croce notes:

> The present is eternal in quite another meaning. It exists and it comprehends existence. The temporal present is a present which succeeds a past and exists by virtue of the non-existence of the past. The eternal present is the present outside which no existence falls. The distinction of past from present is not the distinction of did exist from does exist. The past exists in the present, and the temporal distinctions then and now, before and after, are determinations within existence. It is only the abstractions of the mathematical and natural sciences which have

> made this doctrine sound contrary to reason. When we reflect on our mind, our life, our self, our individuality, we perceive that what we apprehend as real existence is our past acting in the present. This past is carried along in the present, and cut off from it the present is not the present. Everything which partakes of the nature of life and mind involves the fact that it is process or activity, the existence of the past in the present. This is the very notion of duration. The eternal present means, therefore, that reality is one duration which includes past, present, and future, as distinct from an abstract present which excludes from itself an abstract past and an abstract future. (Quoted in Carr 1917: 203)[22]

As readers, experiencing the feeling of being in the moment of a poem's eternal present is to experience the poem's iconicity. That is to say, poetic iconicity occurs when we experience what Langer (1953: 40) has described as the nature of all art, the semblance of felt life through "forms symbolic of human feeling." It is not always easy to describe one's feelings when such iconic enactments occur. Here we may feel a positive sense of completion, a sense of fulfillment of the ant's otherwise lowly destiny, a sense of amusement, the comforting recognition that eternity too can belong to the most inconspicuous of creatures, or indeed all or none of the above. However one might describe them, the feelings we experience reading Wills's version are more intensified compared with Shackleton Bailey's.

3.3. Blending and Metaphor in Aesthetic Iconicity

An aesthetic icon can thus be understood in terms of an emergent structure from the blending of concept, sense, and emotion. As Samuel Taylor Coleridge (1817: chap. 14) notes in speaking of the "images, thoughts, and emotions" of the mind's faculties, the poet "diffuses a tone and spirit of unity, that blends, and (as it were) *fuses*, each to each, by that synthetic and magical power, to which we have exclusively appropriated the name of imagination." The fusion or blending of sensory impressions and the forms of feeling to create the emergent structure of an icon is enabled by metaphor, defined as domain crossing (Freeman 2009, 2011). Historically associated with poetry, metaphor is traditionally understood as conveying ideas that are palpably false because they are drawn from different domains. Time is not literally "swift-footed" (Shakespeare 1954: 1108, Sonnet 19), nor does winter literally have a "ragged hand" (Shakespeare1954: 1106, Sonnet 6).The question is whether this is an example of John Ruskin's (1856) pathetic fallacy, which falsely projects human emotions or contemplative fancy onto the things of the natural world. Yet poets and writers

22. Croce's idea of reality as duration that subsumes past, present, and future is consistent with Merleau-Ponty's (1962 [1945]: 415) phenomenology of time, "not as an object of our knowledge, but as a dimension of our being." See discussion in Freeman 2004.

claim that they show things as they "really are." How can false impressions give a true sense of reality?

Cognitive scientists have shown us a different way of understanding metaphor. Metaphor is no longer seen as a false equation of elements from different domains but as the very process by which we are able to access and understand the relation between domains. It is therefore not a trope restricted to poetic expression but an integral part of our cognitive processes. George Lakoff and Mark Johnson's (1980) conceptual metaphor theory and Gilles Fauconnier and Mark Turner's (2002) conceptual integration network theory, known as "blending," define metaphor not as the result of false imagination but as a process by which we make sense of our experience of the world as reflecting the way we think. In cognitive linguistic theory, a domain is a conceptual entity consisting of a coherent knowledge structure (Evans 2007: 61–62). Domains in this sense are either experiential, derived from embodied experience, both sensory and subjective, or conceptual, more complex and not directly derived from experience. According to conceptual metaphor theory, we understand abstract concepts like love and justice in terms of journeys and scales based on concrete image schemata of paths and balances. In conceptual integration network theory, we create new meaning from fusing or blending shared topology from different domains, whether they are abstract or concrete.

Both conceptual metaphor theory and conceptual integration network theory,as their names suggest, operate at the level of thought that Vico describes as emerging with the development of the human mind. At the sensory level, Vico reminds us, the opposite occurs: there it is our senses and passions that are imposed on the inanimate objects of the natural world (see note 11). More recent cognitive research has taken up the challenge of understanding how sensory impressions and emotions interrelate with conceptualization within the cognitive mind. This challenge has led to a consideration of the role of aesthetics in the creation of meaning with respect to both sensory perceptions of the natural world and artistic expression (Hogan 2003; Modell 2003; Turner 2006; Holland 2009).

The human capacity to synthesize through fusion or blending enables the poet to create through language a semblance or icon of reality for the reader, not the reality that arises from our discursive representations of the world (Shackleton Bailey's descriptive narration) but the reality of our being part of Merleau-Ponty's (1968) "in-visible" world, the immediate, always fleeting present that forever escapes our objectivizing gaze (Wills's moment of the drop falling). This feeling of being drawn in to the eternal present of the poem comes from the cognitive activities of "minding," both the poet's and the reader's.

The cognitive reading of Arnold's poem that follows focuses on the "minding" that "makes" the poem. This making through minding is primarily mine as reader; however, my minding is guided by the etymology of the poem's language and the forms of its structural patternings, such as meter, alliteration, repetition, and parallelism. I argue that by attending to these cognitive processes of minding as revealed through the structural and affective workings of the poem's meter and words, one may capture something of the poet's own minding in making a poem and thus provide insight into the cognitive workings of an individual mind, what it is like to experience feeling.[23] In my discussion of Arnold's poem, I introduce a notion of metaphor that reflects domain crossing between physical experience and emotional response dependent upon the interrelationship of physical sensory impressions and responses in the brain. This domain crossing, in connecting external sensory impressions to Vico's "modifications in the human mind," creates an actuality of experience for the reader that, I claim, results in poetic iconicity.

4. Arnold's "Dover Beach": The Aesthetics of Poetic Expression

Arnold's (1903 [1890]: 226–27) "Dover Beach" is one of the best-known poems in the English language and has generated a great deal of commentary from both literary critics, such as Ian Lancashire (2009), and cognitive psychologists and linguists (Holland 1968; Robinson 2005; Kövecses 2010). Historically, the poem has been universally interpreted as a statement of alienation arising from the secularization of the scientific age (Johnson 1952; Selkirk 1878). My reading differs from these earlier ones, because it focuses on the poem's aesthetic patterns that lead us to experience its iconic semblance of felt life. The poem presents many of the questions raised concerning the aesthetic activity of the human mind, and critics have not satisfactorily resolved them. Why does the poem resonate so strongly with us even though its emphasis falls not on the calm scene with which the poem opens but on the image of ignorant armies clashing by night with which it ends? How can one (to cite an oft-raised question throughout the history of art) feel pleasure in face of another's expression of pain? How can we experience emotions for characters and situations we know don't exist (the so-called paradox of fiction [Hjort and Laver 1997])? Why does the poet find it necessary to refer to the literary past of Sophocles and Thucydides? How can one account for the many dualisms in the poem and the seem-

23. In the past, the term *cognitive* has been equated with the purely conceptual processes of the mind. I use it here to mean all the processes of the mind, which include sensory perception and emotion as well as reasoning.

ingly contradictory stances taken by its speaker? An analysis of the poem that traces the cognitive patterns of minding, both poet's and reader's, can, I believe, shed light on these questions.

"Dover Beach" invites us to consider the nature of reality and our relationship to it, as the poet contemplates Vico's historical cycles of Western thought.[24] The poem's speaker at first experiences the feeling of identification with the external world. He moves to a stage in which conceptualization creates metaphoric analogy between human culture and the world.[25] He then reaches a final stage of alienation, in which there is total disconnection between human emotions and external nature.

Dover Beach

The sea is calm tonight,
The tide is full, the moon lies fair
Upon the straits; on the French coast the light
Gleams and is gone; the cliffs of England stand,
Glimmering and vast out in the tranquil bay.
Come to the window, sweet is the night air!
Only, from the long line of spray
Where the sea meets the moon-blanched land,
Listen! you hear the grating roar
Of pebbles which the waves draw back, and fling,
At their return, up the high strand,
Begin, and cease, and then again begin,
With tremulous cadence slow, and bring
The eternal note of sadness in.

Sophocles long ago
Heard it on the Aegean, and it brought
Into his mind the turbid ebb and flow
Of human misery; we
Find also in the sound a thought,
Hearing it by this distant northern sea.

The Sea of Faith
Was once, too, at the full, and round earth's shore

24. I do not know if Arnold was familiar with Vico's theory, though reading Vico became a popular activity in the secularizing movements of the nineteenth century. Arnold's father, who was a celebrated educator and headmaster at Rugby School, had read Vico and acknowledged his own debt to Vico's thought (Thomas Arnold 1845: 82). Arnold would certainly have known of Ruskin's theory as expressed in *Modern Painters*, which contrasts the sensory perceptions of the early Greeks (especially Homer) with those of the medieval period (especially Dante) and the loss of faith of the modern period that Ruskin found epitomized in the work of Sir Walter Scott.

25. If the gender of the voice in the poem is not identified, it is my practice to adopt that of the poet's.

23 Lay like the folds of a bright girdle furled.
24 But now I only hear
25 Its melancholy, long, withdrawing roar,
26 Retreating, to the breath
27 Of the night-wind, down the vast edges drear
28 And naked shingles of the world.

29 Ah, love, let us be true
30 To one another! for the world, which seems
31 To lie before us like a land of dreams,
32 So various, so beautiful, so new,
33 Hath really neither joy, nor love, nor light,
34 Nor certitude, nor peace, nor help for pain;
35 And we are here as on a darkling plain
36 Swept with confused alarms of struggle and flight,
37 Where ignorant armies clash by night.
(Arnold 1903 [1890]: 226–27)

4.1. The Minding of Arnold's Poem

The history of Arnold's writing of "Dover Beach" gives us insight into his creative process and the development of his thinking as he relates the poem's different sections and images to each other. According to manuscript evidence, the nine lines of the last stanza (lines 29–37) were written in 1851, while Arnold and his wife were visiting Dover Beach to celebrate their recent marriage, whereas the first twenty-eight lines were not composed until fifteen years later (Lancashire 2009). With the exception of the truncated meter of its first and last lines, the last stanza is constructed in iambic pentameter. It follows the standard rhyme scheme that Arnold used for practically all of his sonnets, and it may be that he had first conceived of the poem in sonnet form. However, it concludes abruptly in what is now line 37. The finality of the closure of both sentence and couplet rhyme seems to have precluded the rest of the sonnet. Indeed, the substance of the first eight lines of this last stanza already contains the kind of turn that one expects in the sestet section of a sonnet, in the contrast between the seemingly positive features of "a land of dreams" and the somber, negative representation of the world "as on a darkling plain." Even if one were to see the onset of the turn as marked by the phrase "And we are here," it is extremely unusual to find a sonnet turn occurring in the octet section (it can be delayed after the ninth line but not introduced before it).[26] The

26. I know of no sonnet, experimental or otherwise, that has its turn in the first two quatrains. There are cases where experiments in sonnet form have reversed octave and sestet, notably in Rupert Brooke's (1915: 166) "Sonnet Reversed" (1911) and Dylan Thomas's (1957: 80–85) "Altarwise by Owl-light" (1936), and indeed I suggest that lines 15–28 of "Dover

finality of the last three lines, ending as they do with a couplet form reminiscent of the Shakespearian sonnet, makes it difficult to imagine how the poem might have been continued. One can read the final stanza therefore as a failed sonnet, and this might partially explain why Arnold abandoned it for fifteen years before taking it up again and adding the preceding lines.

The poem in its final form places this failed sonnet within a coherent structural context that enables readers to follow the poet's minding. The poem falls into two almost equal parts: lines 1–20 and lines 21–37. The first part describes the physically experienced scene at Dover; the second introduces the metaphoric analogy of "the Sea of Faith." Both parts end by bringing the historical past into the present, eternal moment—first the past of Sophocles, the Greek poet and dramatist, in lines 15–20 and then that of the Greek historian Thucydides (1954: 459–61), in his account of the battle of Epipolae, in lines 35–37. Embedded in this two-part structure is a tripartite structure that reflects variations of the sonnet form. The first stanza forms a complete sonnet in itself. The next two stanzas also comprise fourteen lines but with the sestet occurring first, and this octet-sestet reversal crosses the divide of the poem's two-part structure. The final stanza I have already remarked upon as a failed sonnet. These changes in form move from the "calm" of the first line, through the "cadence" of the ebbing tide, to the "clash" of the last. They reflect the movement from Vico's first stage, of identification between human emotions and the world of sensory impressions, to his second stage, of creating an analogy between human emotions and the world, and ending with the total separation between human emotions and the external world that marks Vico's final age of humans in the darkness of barbarism.[27]

Beach" may be read as a sonnet in reverse. However, that is not what appears to be happening in Arnold's final stanza. In his explication of the sonnet form, John Fuller (1972: 28) refers to sonnet variations as constrained by "legitimate possibilities" and "genuine expressions of its capabilities," but nowhere does he allow for the possibility of a turn occurring earlier than the sestet, though it may of course be delayed right up to the final lines.

27. Vico (1948 [1744]: 381, §1106) believed that there would be a recycling (*recorso*) through the three stages of gods, heroes, and people:

> Through long centuries of barbarism, rust will consume the misbegotten subtleties of malicious wits, that have turned them into beasts made more inhuman by the barbarism of reflection than the first men had been made by the barbarism of sense. . . . Hence peoples who have reached this point of premeditated malice, when they receive this last remedy of providence and are thereby stunned and brutalized, are sensible no longer of comforts, delicacies, pleasures and pomp, but only of the sheer necessities of life. And the few survivors in the midst of an abundance of the things necessary for life naturally become well behaved and, returning to the primitive simplicity of the first world of peoples, are again religious, truthful and faithful. Thus providence brings back among them the piety, faith and truth which are the natural foundations of justice as well as the graces and beauties of the eternal order of God."

4.2. Metaphor: Cause and Effect in Sense and Emotion

The poem opens with a speaker whose sensory perceptions are attuned to the scene before him. The fourteen lines of the first stanza have an unconventional sonnet form, oscillating between the ballad meters, which have their source in the Germanic stress-timed meters of Old English poetry, and the syllabo-tonic tradition of the Romance languages. This oscillation reflects the historical emergence of English poetry as the product of a marriage or fusion between the two poetic traditions.[28] The poem shifts to iambic pentameter at the introduction of the "French coast," compared with the "cliffs of England," and culminates in the invocation to the addressee in line 6. This transitional movement of historical prosody is reflected in the way sensory perceptions move from images of sight in the opening lines, through the synesthetic invocation to taste the sweetness of the night air in the second quatrain, to images of sound in the sestet. Arnold creates in this first stanza a scene in which what we see, taste, and hear creates in us certain emotional responses, feelings that we project back onto the sources of our sense impressions to create a sense of identification between human "subjectivity" and "objective" reality, just as the "grating roar" of the pebbles creates in the listener "the eternal note of sadness."

As we have seen, the idea that sensory experiences of the external world can create emotional responses in us forms the basis of Vico's explanation of how images come to be present to the mind. When Zoltán Kövecses (2010: 671) says of lines 13–14 in Arnold's poem "of course we know that waves cannot actually *bring in* sadness or *notes of sadness*—they can only be metaphorically responsible for our sad mood when we hear the *tremulous cadence slow*," then he, like Ruskin, is representing metaphor as indicating the false impression given by the pathetic fallacy. However, I suggest that the causality implied by Kövecses's phrase "metaphorically responsible" in fact reflects domain crossing among the physical sound, its musical "cadence," and its emotional effect on the listener.[29]

28. Several attempts were made in the twentieth century to characterize the grammar of English poetry, from George Saintsbury's (1961) monumental study to the work of such linguists as Geoffrey Leech (1969), Morris Halle and Samuel Jay Keyser (1971), Derek Attridge (1982), and Richard Cureton (1992). My own unpublished dissertation (Freeman 1972) explores the relation of English metrics to its sources in both Germanic and Romance poetic traditions. Fauconnier and Turner's (2002) blending theory helped me reformulate my argument there in terms of the metaphor of English poetry as the child of two parents, where the child carries traces of both but is itself unique. The emergent structure that results from the product of this metrical marriage has never been, to my mind, fully modeled in English metrical theory.

29. Of all art forms, music is the closest to pure sensory feeling, and there has been a great deal of research by cognitive psychologists into the relation between music and the emotions

Arnold's description of the sound of the receding tide is expressed through the metaphor of music marked by the choice of the words *cadence* and *note* in lines 13–14. As readers, we respond to the aesthetic pattern created by the rhythmic sounds of the two lines that mimic the "tremulousness" of syncopation, lines in which an anapestic rhythm occurs in two syllables occupying one metrical position; the pattern of a trisyllabic word followed by two and then by one in "tremulous cadence slow" becomes three, one, one, and two in "eternal note [of] sadness"; and the stressed vowels modulate in form and order of occurrence:

With trémulous cádence slów, and bring
1 2 3 4 5 6 7 8
The etérnal nóte of sádness in.
1 2 3 4 5 6 7 8

An examination of Arnold's manuscript changes to line 13 indicates that he may be consciously distinguishing here between the fact that physical sounds can cause emotional effects and Ruskin's pathetic fallacy. Describing the "grating roar" of the wave-driven pebbles, Arnold first wrote "With regular cadence slow" and then changed the adjective to "mournful." This became, in the published version, "With tremulous cadence slow." The progression of Arnold's thinking is illuminating. The notion of regularity serves as a commentary on the preceding line, "Begin, and cease, and then again begin," and therefore appears redundant, although identifying the repeated regularity of the ebb and flow of the tide suggests the establishment of Vico's *topoi* in the mind. The term *mournful* anticipates the following lines, "and bring / the eternal note of sadness in." The question is why Arnold chose to substitute "tremulous" for "mournful." The adjective "mournful" in this context indicates that the sound of the pebbles' roar is in itself mournful, an example of Ruskin's pathetic fallacy, whereas the adjective "tremulous" can apply to both the turbulent action of the waves and the physical trembling of an emotional response.

By choosing the word *tremulous*, Arnold hits upon a description that applies to the natural things of the world, including ourselves. That is, as the movements of sound of the wave-driven pebbles vibrate and shake, so we too can experience vibrations and shakings when we physically tremble. This sensory identification, reflecting Vico's description of the first people's fear of thunder, is the sensory metaphor of emotional iden-

(Sloboda 2001). A recent article in *Nature Neuroscience* (Salimpoor et al. 2011) describes experiments that show chemical changes, through dopamine increase in the brain, when listeners anticipate and experience peak levels of favorite musical passages. Such research reinforces the finding that domain mapping occurs across the physical and the affective elements of human experience.

tification, not the conceptual metaphor of analogy. In conventional conceptual metaphor, the domains crossed are material (concrete) and intangible (abstract); in attribution metaphors, the domains can be either both material, as in "Juliet is the sun," or both intangible, as in "Jove is thunder." Identity is effected by means of Fauconnier's (1997: 41) access (or identification) principle, which states that "an expression that names or describes an element in one mental space can be used to *access* a counterpart of that element in another mental space." The phrase "tremulous cadence" creates a synesthetic identity between movement and sound, just as "grating roar" does, and these identity connections cause a reaction in the hearer. Arnold's speaker in this first stanza is not committing the pathetic fallacy of claiming that the waves themselves are sad; he is claiming, contrary to Kövecses's statement quoted above, that sensory impressions *do* leave emotional traces in our minds. So the aural receptivity of our brains enables the force dynamics of physically representing the sound of the waves as an emotional feeling in our minds. Kövecses's "metaphorical responsibility" implies a cause and effect relationship between the physical acoustics of the ebbing tide and the emotional feelings aroused in the mind. It is a metaphor of cross-domain causality, which cognitive neuroscientists have discovered actually occurs (see note 396).

This cross-domain causality challenges the division that dominated Western thought in the past between the physical bodily domain of "objective" experience and the cognitive conceptual domain of the "subjective" mind. In discussing the question of the relation between the physical and the sensational/emotional, Ruskin (1856) notes that the objective/subjective distinction is ambiguous and misleading. Using the example of color, he says that the definition of "blue" as the sensation of color on the human eye as we look at the sky or at a blue gentian flower has misled some philosophers. They assume that there are "qualities of things that . . . depend on our perception of them, and upon our human nature as affected by them" and consider these qualities to be subjective, as opposed to "the qualities of things which they always have, irrespective of any other nature, as roundness or squareness," which are considered objective. In contrast, Ruskin (1856: §2) argues that "the word 'Blue' does *not* mean the *sensation* caused by a gentian on the human eye; but it means the *power* of producing that sensation; and this power is always there, in the thing, whether we are there to experience it or not, and would remain there though there were not left a man on the face of the earth."[30]

30. In this way, Ruskin resolves the paradox of the old riddle of whether or not a tree makes a sound in the forest when it falls if no one is there to hear it. The falling tree has the power to produce the sensation of noise regardless of who is or is not there.

Modern science confirms Ruskin's nineteenth-century view in more technical terms. As humans, we are able to see a world of color, because our brains are adapted to register the wave spectrums that exist in the world around us (Jacobs and Nathans 2009). The ability to detect the full range of the color spectrum results from a combination of trichromatic factors: the properties of the object, the kind of light available, and the particular vision system in the brain of the viewer. I suggest that there is a similar process regarding the aural spectrum. We know that there are sound tones that certain animals can hear and others cannot (Lipman and Grassi 1942; Warfield 1973; Fay and Popper 1994; Lopez-Poveda et al. 2010). The ability to hear a range of sounds results from the properties that create sound waves, the environmental conditions that regulate their transmission, and the receptivity of the brain's aural system. This is true for all five senses. It shows that we do not merely observe nature but are "mindful" as participants of it.

Modern research has furthered our knowledge of how we relate cognitively to the world. The discipline of educational psychology has long recognized the existence of three domains related to the brain: cognitive/mental, affective/emotional, and psychomotor/physical (Bloom 1956). Cognitive psychologists have documented through many experiments the physical and emotional reactions we experience when reading value-laden words, whether positive or negative (see De Houwer and Hermans 2010 for a review of current research). Neuroscientists are beginning to discover how cognitive, affective, and psychomotor processes are interrelated and integrated in brain functioning (LeDoux 1996; Damasio 2010).

According to Lakoff's (2006) summaries of current cognitive science research (e.g., Regier 1996; Narayanan 1997a, 1997b; Rizzolatti et al. 2002), certain neural circuits in the brain structure sensory-motor observation, action, and stimulation and include image schemata and force dynamic schemata. The CAUSES ARE FORCES metaphor, Lakoff (ibid.: 163) explains, "maps *forces that result in motion* onto *causes that result in change*." In Arnold's poem, due to that metaphor the sound of the retreating tide that is registered through the auditory system of our brains produces a feeling of sadness. The first stanza achieves this connection through the conceptual image schemata of OUT-IN and CHANGE. In line 5, the word *out* carries extra weight owing to its placement on the metrical position that occurs immediately after the prosodic caesura at position 4. It is syntactically ambiguous. It may be attached to the verb in line 4, as in the cliffs "stand out," or it may be understood as an adverb of place, with the cliffs lying "out," away from the viewer. In either case, it is immediately followed by its semantic opposite "in," and this juxtaposition of "out in" introduces

a major theme of the poem, with the adverbial "in" of line 14 paralleling the "out in" of line 5: the OUT-IN schema reflects the idea of the sensory sound of a tide flowing *out* in the world, bringing *in* a feeling of sadness into the mind.

4.3. Iconicity: The Experience of Felt Life

Like Wills's "for all eternity," Arnold's "eternal note" in line 14 carries the aesthetic meaning of duration in the eternal present, as evidenced by the immediately following invocation of a Sophoclean past, when the same sound produces in the Greek poet a similar emotional response of human misery, reinforced by the patterned repetition of "bring / . . . in" of lines 13–14 and "brought / Into" of lines 16–17.[31] The relation between sensory impressions and emotions is created by the imagination that all human beings share, according to Vico's concept of imaginative universals, a concept that depends on Vico's understanding of *sensus communis*. Though this latter term is often translated as "common sense," it is better understood as "consensus"—the sense of what is held in common, that is, the understanding that the same principles of recollective understanding shape and order all human societies and cultures. As Donald Phillip Verene (1981: 53) explains it, "In Vico's view, common sense, or *sensus communis*, is not a proto-scientific form of knowledge, but the common way of experiencing the world present in the life of a people. It is not a set of consciously formed cognitive or empirical beliefs. The *sensus communis* of a people is rooted in a common way of feeling, speaking, and symbolizing meaning in the world." That common way includes practical judgment and arises from the poetic wisdom from which all knowledge springs and which is based on imagination (*fantasia*). Arnold invokes the natural quality of the sound of pebbles thrown up by the ebbing tide to produce the effect it does wherever and whenever it occurs by connecting the speaker's own experience with historical memory of what Sophocles also heard and how he responded. Arnold may have had in mind Sophocles's (1954: 180, ll. 585–91) description of a similar scene in which the "hollow cry" resulting from the wind-driven waves evokes the misery of human lives, "whose house is shaken by the gods":

> Fortunate they whose lives have no taste of pain,
> For those whose house is shaken by the gods
> escape no kind of doom. It extends to all the kin
> like the wave that comes when the winds of Thrace
> run over the dark of the sea.

31. I owe this observation to Meir Sternberg.

The black sand of the bottom is brought from the depth;
The beaten capes sound back with a hollow cry.[32]

Cross-domain metaphors between the physical and the emotional that invoke knowledge of the *sensus communis* are imaginative universals in Vico's sense and thus create archetypal icons of human experience.

The use of conceptual schemata in aesthetic patterning reveals how aesthetics provides insights into the workings of the human mind. The experience of Arnold's "Dover Beach" lies in its expressions of mutability, of change that brings about feelings of insecurity and vulnerability. The CHANGE schema, conceptually building upon the sensory, informs the images of the poem as it simulates the reality of the world around us. That is, though the poem opens with the image of a tide at full, its fullness is only momentary; as soon as high tide occurs, it immediately begins to recede, and it is this withdrawing that is the subject of the poem—not the rising but the falling of the tide. In a similar vein, the moonlight is itself not static; just as the light "gleams and is gone" from the coast of France, so the moonlight gives way to the "night-wind" and the "darkling plain" of the poem's conclusion. Norman N. Holland (1968: 116) notes the contrast between "sweet sight and disillusioning sound" in the poem, but the relationship of sight and sound is closer and more complex. Both are subject to change; just as the tide turns, moonlight gives way to darkness, bright faith at the full must inevitably retreat in "melancholy, long, withdrawing roar" to the darkness of the "night-wind." The world that "lies before us" at the full, like the "Sea of Faith" that "lay" at the full "like a bright girdle," has in fact "no light," and we are left, like Sophocles's victims who cannot escape their doom, with Sophocles's "taste of pain" that accompanies us "here" on Thucydides's "darkling plain" of the world.

The second part of the second stanza marks a transition from sensory identification to conceptualization, as the speaker now finds in the sound not an emotion but "a thought." The transition is marked by the semicolon dividing the two parts related within one line: "Of human misery;

32. Lancashire (2009) also cites other possible sources for Arnold's reference to Sophocles. Arnold would have read Sophocles in the original; however, Richard Jebb's (Sophocles 1891) translation that Lancashire (2009) quotes is intriguing because of its use of the word *mournful*:

[583] Blest are those whose days have not tasted of evil. For when a house has once been shaken by the gods,
[585] no form of ruin is lacking, but it spreads over the bulk of the race, just as, when the surge is driven over the darkness of the deep by the fierce breath of Thracian sea-winds,
[590] it rolls up the black sand from the depths, and the wind-beaten headlands that front the blows of the storm give out a mournful roar.

Elizabeth Wyckoff's translation of *hollow* given in the text avoids this appearance of the pathetic fallacy.

we." The first-person plural pronoun suggests not only the inclusion of the speaker and the addressee within the poem but the possibility that the reader is being addressed too, so that finding thought in sound may apply universally to all humankind. This stanza thus serves as a bridge between the sensory metaphor of attribution, in the identification of sound with sadness, to the conceptual metaphor of analogy, in the relation of sound to thought.

The third stanza makes this "thought" explicit, as the speaker transforms the images of the first stanza into a conceptual metaphor of analogy, with both tide and faith "at the full." Thus the actual fullness of the tide that was described in the opening lines becomes the metaphoric high point of the "Sea of Faith." This movement from sensory causality to conceptual analogy in human thought occupies only three lines (21–23) of the entire poem, since this stage modulates into the final and decadent stage of humankind's alienation from nature and the divine, just as the tide, when it reaches its highest and fullest point, immediately begins to recede.

The speaker no longer consciously experiences an emotional response to the sound of the retreating tide; emotional response subsides into the precognitive background as he "now . . . only" hears in the sound an analogy to the melancholy loss of faith. The divorce of humankind from sensory identification with nature is complete. The images of the first stanza darken: the cadence of the continuous ebb and flow of the pebbles, here recurring as "shingles," is now heard only as a withdrawal, long and melancholy; the sweetness of the night air is transformed into the more ominous "breath / of the night-wind," the cliffs that stood out "glimmering and vast" have become "the vast edges drear"; the shingles are naked. The withdrawal of a faith that enabled the calmness and moonlit land of the opening scene to be seen as "the folds of a bright girdle" investing the world (in the sense of clothing it) prepares for the final loss: the last stanza marks Vico's (1948 [1744]: 59, §159) final age of human barbarism of the intellect in "subduing that acerbity of minds still bound to the body."

The speaker in the final stanza is one who rejects the idea that endows the external world with human feeling. According to Vico (1990 [1709]), this objectivization of the natural world is a consequence of the scientific view, the development of human thought that splits sensory and emotional feelings from rational exploration.[33] Though rejecting any connec-

33. In using the phrase "sensory and emotional feelings," I am following Antonio Damasio (2003: 28), who distinguishes sensations and emotions, on the one hand, from feeling, on the other: "Emotions play out in the theater of the body. Feelings play out in the theater of the mind. . . . Emotions and related phenomena [e.g., sensations] are the foundation for feelings, the mental events that form the bedrock of our minds." A sensory or emotional feeling, in my usage, indicates that the sensation or emotion has reached conscious awareness.

tion between human feelings and the natural world, the speaker recognizes that something has been lost in the process: that "truth" can perhaps reside only in the social compact of human relations, the kind of truth that Vico's new science opposes to scientific truth.

But as readers, we are still shocked by Arnold's ending and may be led to ask why his armies in the final line of the poem are ignorant. He could have chosen "hostile" or "warring" or some other two-syllable adjective that would have described more typically the nature and function of armies. By choosing "ignorant," Arnold is penetrating through external, prosaic description to capture an inner, more explanatory notion of something lacking in these armies. We are led to ask what it is that they don't know, to begin to realize that perhaps their not knowing is the cause of their hostilities. The adjective opens up a range of ideas and possibilities beyond words, revealing, in Ruskin's (1856) words, "a more essential truth than is seen at the surface of things." It is no accident that Arnold ends his poem on this note, since it invokes Vico's age of final barbaric darkness before the *recorso* to the first stage begins again, a darkness far more invidious than that which our earliest ancestors experienced (see note 27). In this age, which began with the development of conceptual thought, we have been made ignorant of the truth of human existence that is intimately connected to the natural world through the relation of sensory impressions to emotional feelings. So Arnold's call to "be true / To one another!" works to force us back into reconnecting with the truths that the poem presents by tracing what has been lost to humankind in the modern, scientific age.

5. Conclusion

An analysis of the structural patterning or *wen* of a poetic text, because it reaches down into the depths of the way language can be made to work aesthetically, creates a means by which we are able to reconnect consciously with the precategorial sensations and emotions that our preconscious minds experience. My reading of "Dover Beach" reveals the synthesizing capabilities of the poetic mind as it imaginatively creates a unified and harmonious whole that underlies the seemingly contradictory attitudes of the speaker manifest on the surface of the poem. By fusing the otherwise separate elements of sensory impressions and emotional feelings within the imagination of the poem's speaker, Arnold simulates for the reader a felt reality, what it is like to feel connected to the world we experience. This imaginative identification does not depend primarily on conceptual, analogical reasoning but on gestalt intuition arising from Vico's principles, which were mentioned in the introduction and are formulated as follows:

1. Both poet and reader engage in aesthetic activity in "making" (*poesis*) the images of "Dover Beach" present to the mind. Thus Arnold shows the way the mind works through sensory perception and expresses through his poem the intuitions that are internal to the mind. The knowledge that results comes not from experimentation, as in the sciences, but from felt experience.
2. Art as making enables both poet and reader to experience on a deeper level the natural relation of sensory and emotional experiences that underlie conceptual formation. Arnold imaginatively fuses the sensations of the tide's ebb and flow with the emotional resonances of sadness to create an identificatory relationship that supersedes Western ideas of objective reality and human subjectivity.
3. The conceptual analogy that creates the "Sea of Faith" metaphor through the schemata of OUT-IN and CHANGE is built upon the intuitive fusion of subjective feelings that arise from memory and imagination. Thus Arnold's poem focuses on the necessary, a priori status of intuition, without which conceptualization is not possible.
4. The *sensus communis* of the imaginative universal also makes possible the synthesis of past memory with present experience. Arnold invokes Sophocles's hearing of and responding to the same sound and Thucydides's description of the Athenians' confusion on the plains of Epipolae to create a metaphysical, "eternal" truth about communal human experience not as generalization but within the particular rendering of imaginative identity.
5. The analysis of forms and structures in what is made (*poesis*) reveals the patterns and repetitions of philological traces (*memoria*) and philosophical invention (*ingegno*) through the operations of the imagination (*fantasia*). Examining these patterns and repetitions within the context of a gestalt intuition of the whole poem shows the unity of perception that underlies the superficially irregular forms of Arnold's poem.[34]

The question still remains, however, how, if at all, the methodologies of the sciences and of the arts are interlinked. In his first book *On the Study Methods of Our Time*, Vico (1990 [1709]) claims that his theory is not just

34. Although I have traced in Arnold's poem a progression of thought, the overall impression we receive is a holistic and immediate feeling of presence. As George Gleason (personal communication) comments: "For me, there is no progression in the poem from beginning to end; rather it is all encompassed in a 'present' image of life, at least as the poet was then experiencing it. Whatever logic sequence there is in its progression from beginning to end, it is overwhelmed by the immediacy of its emotional impact." Gleason's comment indicates the poem's iconicity in creating a moment of the aesthetically eternal present.

equivalent but superior to the Cartesian science of his time on all matters related to human affairs. Vico's theory of *memoria* is attractive on several counts. It places poetic wisdom at the beginning of human thought and not as an incidental or accidental afterthought. It also explains, by relating the natural intuitions of sensory and emotional identification with the experienced world, how an imaginative expression that is unique in its individual particularity can nevertheless invoke the imaginative universals established by the *sensus communis* of universal human experience.

As the means by which poetry achieves the semblance of a felt reality, aesthetic iconicity accounts theoretically for the relation between emotional and sensory experiences. Langer (1953: 245) expresses it this way: "To create the poetic primary illusion, hold the reader to it, and develop the image of reality so it has emotional significance above the suggested emotions which are elements in it, is the purpose of every word a poet writes."[35] The processes of minding, metaphor, and iconicity in poetic expression provide the groundwork for describing the aesthetic structures of the imaginative faculty that are integral elements for the development of a comprehensive theory of mind.

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35. Langer's phrase "emotional significance above the suggested emotions which are elements in it" contains the seeds of an answer to the question raised earlier as to how we can feel pleasure from another's expression of pain. It is not that we do so. If we did, we would be sadistic. Rather, it is the total aesthetic experience of the literary work that gives us pleasure, the relating of our emotional feelings as we read the text to the experiences it expresses.

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