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“Swallowed Up In Impression”: Humphry Davy’s Materialist Theory of Embodied Transcendence and William Wordsworth’s “Tintern Abbey”

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Transcendent experiences depicted in Romantic poetry are understood as instances in which the mind leaves the body to touch upon an immaterial realm that exists independently of the material world. This concept of transcendence, which relies on substance dualism or German idealism, posits an ahistorical version of a reality that is eternal. In contrast to this common view, Humphry Davy offers a materialist account of transcendence based on embodied cognition. Davy argues against a transcendental realm. He theorizes that transcendent experiences are not disembodied, but moments of intense emotion. He provides an empiricist model of embodied transcendence that offers new ways to understand Romantic poetry. This article elucidates Davy’s theory in relation to British Romantic cognitive science and analyzes Wordsworth’s “Lines Written a Few Miles Above Tintern Abbey” in light of these findings. It challenges traditional readings of the poem and raises questions about body’s role in theories of imagination more broadly.

– that serene and blessed mood,
In which the affections gently lead us on,
Until, the breath of this corporeal frame
And even the motion of our human blood
Almost suspended, we are laid asleep
In body, and become a living soul:
While with an eye made quiet by the power
Of harmony, and the deep power of joy,
We see into the life of things. (William Wordsworth, “Tintern Abbey”¹)

In 1799 or 1800, chemist Humphry Davy visited the ruins of Tintern Abbey. He was inspired by William Wordsworth’s poem, which he read when he corrected the proof sheets of the second edition of the *Lyrical Ballads*, a project he undertook at the request of Samuel Taylor Coleridge. His goal was to experience the transcendent state of being described by Wordsworth, and he was not disappointed. In a notebook entry Davy recounts:

I was unable to sleep – I arose & stole to the window – The moon had just sunk beneath the ruins of the abbey & her broken & trembling light shone through the west window upon the burying ground – beyond which the moving waters of the Wye were dancing

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& murmuring beneath the light, for a few minutes I was lost & swallowed up in impression, no longer connected with the earth, I seemed to mingle with nature . . . (RI HD/20/a)²

Influenced by his acquaintance with the poets and his experiments with nitrous oxide, Davy became interested in transcendent experiences, including synchrony, athanasy, and the sublime, and speculated about them in notebooks written around this time. His description seems to fit the common understanding of Romantic transcendence – a moment that “leaves the body and its brain behind to posit an idealized Reason that . . . succeeds in touching on the noumenal itself” (Richardson, *Neural* 24). One key word in Davy’s description, however, belies this definition. That word is “impression.”

When Davy describes himself as being “swallowed up in impression” (RI HD/20/a), he employs one of the most widely used terms in discussions of the empirical mind. “[A]n impression or motion made in some part of the body as produces some perception in the understanding” is the most basic unit of sensory perception in materialist theories of cognition (Locke 69). Thus, in this account of transcendence, Davy positions himself as a materialist who sees cognition in terms of bodily processes. His experience at Tintern Abbey was not a disembodied experience, but a most embodied one. To understand Davy’s account of transcendent experiences, we must look to the context in which it was articulated – British Romantic cognitive science. Empirical materialists in the late Enlightenment and Romantic periods theorized that cognition was a function of embodied processes rather than the immaterial soul. Emotion, or feeling, was fundamental to these theories. Within this context, Davy offers a theory of transcendence based on the concept of embodied emotion that sheds light on how some Romantics, including Wordsworth, understood the transcendental experiences represented in their poetry. Despite familiar interpretations of “Tintern Abbey” as a transcendentalist poem, I situate it within the cognitive context and Davy’s early view of transcendence, which complicates such disembodied readings and exposes the mutually co-dependent relationship of mind and body represented in Wordsworth’s poem.

This article examines the remarks on transcendence recorded in Davy’s early notebooks and argues that the chemist offers a materialist account of these phenomenological experiences based on the idea that cognition is an embodied process. Like Alan Richardson, I argue that the “sublime does not depend on an intuition of a transcendent realm somehow above the ordinary mind but rather on a palpable sense of the active brain that subtends the ordinary workings of the mind” (*Neural* 34). Yet, where Richardson supports his argument with evidence from twenty-first-century cognitive scientific theory, I offer Davy’s contribution to the science of mind as a contemporary, Romantic model of materialist transcendence. Even if Davy did not remain committed to this model throughout his life, it offers a new and valuable lens for reading Romantic accounts of transcendence that complicate current scholarly understandings of it. For, while not all species of Romantic transcendence can be read in terms of embodiment, neither can they all be read in terms of Platonism or German transcendentalism.

The Romantic preoccupation with transcendent experiences has made scholars uneasy, particularly in the last quarter of the twentieth century. New historicists, especially, are uncomfortable with the idea that encounters with nature and aesthetic experiences inspired by poetry seem to offer unmediated experiences of reality. In this view of transcendence, the “purer mind” frees itself from the corrupting influences of the bodily senses and makes contact with an absolute reality that is unsullied by

material constraints (“TA” 30). Not only do these encounters assert categories of experience that exist outside of history, according to these scholars, they also reveal a desire to efface historical and political reality and replace it with poetic aestheticism. They represent a flight “from rational inquiry to imaginative pursuit” (McGann 10). In 1986, Marjorie Levinson aptly characterized this problem by asserting that “Romantic transcendence is a bit of a white elephant” that scholars must “refuse . . . until such time as we can trace its source and explain its character” (57). If, as I propose, we “trace its source” to materialist theories of mind formulated during the Romantic period, we can begin to “explain its character.” Tracing mental experiences back to their bodily origins reveals that transcendence is not necessarily characterized by disembodiment, but can also be understood in terms of embodied emotion. It enables us to explain its character in terms of empirical theories of an active mind, a significant part of Romanticism’s social and historical context. It also provides an alternative approach to understanding this phenomenon that does not rely solely on German Transcendentalism.

Davy’s Materialist Theories of Active Mind

Humphry Davy burst onto the Bristol intellectual scene in October 1798, arriving just after his future friend Coleridge had left for Germany. A young man from a respectable but impecunious family in Penzance, Davy planned to become a physician because it offered a better living than chemistry, his primary fascination. While he was apprenticed to the surgeon John Bingham Borlase, Davies Giddies, a family friend who was familiar with some of the experiments Davy had conducted as a teenager, recommended him to Thomas Beddoes. Beddoes was a well-known radical physician who was looking for someone to oversee the laboratory at his newly established Pneumatic Institution. He founded the Institution to research atmospheric and factitious airs and other potential cures for pulmonary diseases such as consumption. Impressed by Davy’s research, Beddoes offered him the opportunity to pursue chemistry as a vocation and to have his first experiments with heat and light published. At the Pneumatic Institution, Davy immediately began making a name for himself with his experiments with nitrous oxide.³

Famous for his later inventions and discoveries, such as the safety lamp and isolating several elements, Davy is not generally considered a participant in the Romantic science of the mind, probably because he never published a theory of cognition. His early notebooks, however, reveal his fascination with cognitive science. His interest was piqued, most likely, by the popularity of the subject, instigated in the Romantic period by Joseph Priestley. His father’s paralytic stroke and loss of mental competency, which seemed to indicate “that the physical brain was the single centre of ‘all Mental faculties’,” may also have roused his interest (Holmes 243). Davy’s Penzance notebook contains dualist and materialist accounts of sentience, the product of his “extensive late night reading” (Lefebure, “Alchemist” 86). His reading included Locke’s *Human Understanding* (1700), David Hartley’s *Observations on Man* (1749), and Abraham Tucker’s *The Light of Nature Pursued* (1768–1777), a seven volume text that “treated all the same topics that associationist psychologists who had preceded him had” (Fullmer 115). Davy’s early notebooks are filled with observations, outlines, and queries that hint at a tentative theory of sentience.

It can be tricky to determine exactly what Davy believed during different periods of his life because his notes are fragmentary and assert contradictory positions. Some of the notebooks are not clearly dated, making it difficult to trace the trajectory of his

thought precisely. Additionally, many of the essays are half finished and some have passages that have been crossed out, presumably at a later date, indicating that Davy had changed his mind. I contend that Davy's earliest notebooks reflect his efforts to educate himself. Later, after he joined Beddoes at the Pneumatic Institution and began experimenting with nitrous oxide in 1798, he adopted a materialist position for a few years. Much later in life, he openly espoused a dualist position in *Consolations in Travel, or the Last Days of a Philosopher* (1830), which he wrote shortly before he died in 1829. As this article does not deal with Davy's middle years, I examine only his notebooks written before and just after the turn of the century.

A notebook dated 1795 to 1796, written when Davy was still a teenager in Penzance, records arguments both for and against dualist and materialist theories of mind.⁴ John Yolton notes that many thinkers – Locke, Hartley, and Priestley included – thought “that immateriality was not necessary for [the] immortality” of the soul (17), and Davy seems to be rehearsing these arguments in this notebook. Davy was likely considering both sides of the debate in an effort not only to master the various arguments for and against each hypothesis, but also to determine his own beliefs. In a later letter to James Tobin, written in March 1800, Davy outlines what appears to be Hume's skeptical account of perception. Hume, like Kant, carefully distinguished between knowledge of perceptions and knowledge of external objects, and in this letter Davy seems to be trying to understand Hume's theory. He reports: “I have been puzzling myself to find out what people mean by external things” (BRB 4203). Davy was trying to understand the terminology employed in the mind–matter debates, which as Darwin's *Zoonomia* (1794) and Beddoes' *Observations on the Nature of Demonstrable Evidence* (1793) make plain, was crucial for understanding the subtleties of different authors' arguments.

In these pages of the Penzance notebook, Davy does not appear to espouse either view, though certain passages containing materialist claims are scored out. It is unclear when Davy did this, as the notebook also contains commentary, written in 1804 or 1805, that gives the impression that Davy held materialist views at the time he wrote them.⁵ For example, under a list of questions asking if there “Are any Ideas abstract from the body” an inserted comment states: “This is all frivolous” (HD/13/f). Other notes assert that “this [thought/existence] is from sensation” and “These are all material Ideas” (HD/13/f). In another diary, written sometime before 1800 but presumably after the Penzance notebook, Davy adopts a materialist position in his musings on cognition.⁶ Here, he no longer simply rehearses others' arguments, but explores hypotheses of his own. From this, I surmise that for a period Davy seriously considered materialism as a valid hypothesis.⁷

Toward the end of his life, when he was preoccupied with death and hoped for an afterlife, Davy wrote *Consolations in Travel*. This highly speculative salmagundi, which details his travels abroad, discusses scientific theory, and even asserts the existence of a race of alien beings (Lefebure, “Opium” 58), is similar to his earliest notebooks in that it lists the arguments for and against materialist accounts of cognition. In the fourth dialogue, Davy orchestrates a conversation amongst three fictional scientist-philosophers that sets out the terms of the ongoing debate about sentience and vitalism and rehearses the prevailing materialist and dualist positions. Ultimately, he asserts a dualist view, in part because the materialist accounts lack adequate empirical evidence to support them.⁸ At this point in his life, Davy espoused conservative philosophical and religious (that is, Christian) views. Despite fluctuations in opinions and belief, however, Davy's early materialist speculations offer an important context for

interrogating Romantic representations and understandings of transcendence. This context is framed by empiricist theories of mind that were formulated during the late eighteenth and into the nineteenth centuries. These hypotheses emphasized the body's role in cognition, extending Locke's idea that experience comes from interacting with the external world by focusing on embodiment. Examining concepts such as transcendence from this perspective not only complements existing scholarly understandings of this Romantic category of experience, it stakes a claim for a concept that has largely been rejected by new historicist scholarship as "a white elephant" (Levinson 57). This approach also contributes to the argument that the Romantic turn to poetry and imagination was not necessarily a flight from social reality, but an experimental response to social ills that made use of the latest scientific ideas. Considering transcendence in terms of embodiment alongside interpretations that see it as a disembodied experience, reopens a dialogue about its importance within the Romantic period and today.

Though his theory remains fragmentary, in his early career Davy participated in a discourse – along with Erasmus Darwin, the poets Wordsworth and Coleridge, and others⁹ – that I denominate Romantic cognitive science. That is, he contributed theories to the empirical study of the mind that, like twenty-first-century cognitive science, was a multidisciplinary undertaking that spanned philosophy, physiology, chemistry, and other disciplines. According to Yolton, the nature of cognition had been actively debated through the eighteenth century after Locke suggested that God has the power to make matter think (14).¹⁰ Yet, this debate between materialists and dualists assumed a new intensity during the Romantic period. With his 1775 publication of *Hartley's Theory of Mind*, an edited version of the text, Priestley "forcefully brought Hartley's *Observations* to the attention" of the reading public by "placing it in a polemical context" (Allen 13). He accomplished this by prefixing several of his own essays that attacked dualist theories of mind advanced by Scottish Common Sense philosophers.¹¹ Priestley further fuelled this debate by publishing *Disquisitions Relating to Matter and Spirit* (1777), an ardent defense of materialism. Hartley's and Priestley's work inspired and enabled empiricists such as Davy to continue exploring materialist theories of mind.

Hartley's work was radical in that he outlined a detailed physiological account of sentience that far exceeds Locke's theory. Despite his suggestion that God could create sentient matter, Locke believed that "[m]atter cannot produce a thinking intelligent being" (Yolton 15).¹² In taking up Locke's work, Hartley interpreted it in materialist terms, looking at cognition from perspectives that Locke deliberately ignored.¹³ He justifies his approach by appealing to empirical observations about the effects of alcohol, drugs, and head injuries on mental capacity. Though he maintains that he does not mean to controvert the immateriality of the soul, Hartley's theory does precisely that. By offering the Doctrine of Vibrations to explain neural transduction, or the way in which stimulus is conveyed by the nervous system to the brain, he makes the soul unnecessary for cognition. While the physiological detail in Hartley's account made a materialist theory of mind plausible, Priestley made it even more feasible by offering a new theory of matter based on forces rather than substances. In Priestley's view, "matter is not basically hard, inert, and extended but rather consists of geometrical points surrounded by concentric spheres of repulsive and attractive forces" (Schofield 350–51). According to this redefinition, matter has active, rather than passive, properties. This theory of matter obviated dualist objections that thought could not be a property of an inert substance. By offering an alternative to

Newtonian definitions of matter, Priestley opened up new vistas for exploring the relationship between body and mind that thinkers such as Darwin and Davy seized upon.

While Hartley's and Priestley's theories are considerably more radical and creative than their predecessors,' they remain egregiously flawed because they posit a wholly passive mind. Many thinkers, regardless of their philosophical positions, objected to a theory in which the mind merely registers impressions from external objects with little, if any, power to mediate sensation, thought, or emotion. In this system, it is "a lazy Lookeron on an external World" (Coleridge, *Letters* 2: 709). Consequently, the materialist theory of cognition strips human beings of free will by subjecting them to the Doctrine of Necessity. According to Necessitarianism, all actions are the result of prior experiences, and decisions are made "in the same manner, and with the same Certainty, as other Effects . . . from their mechanical causes" (Hartley 500). This axiom that all actions are causally prescribed by previous experience is the logical outcome of Hartley's theory, as both Hartley and Priestley recognized. Being dissenting theologians, however, both men saw this circumscription in terms of divine will and were untroubled by it. Their belief in the perfectibility of humankind, which ever moves toward reunion with God, makes the ultimate outcome of Necessitarianism optimistic. In this respect, they were characteristic of many eighteenth-century men of science in that they saw no conflict between believing in an immortal soul, the resurrection of the dead, and other Christian doctrines – often considered to be transcendentalist – and materialism. This problem of passivity, nevertheless, became a focal point in the debates about cognition. Dualists, and others, objected to the idea that human beings lacked free will.

Many Romantic thinkers, including Coleridge in the *Biographia Literaria* (1817), rejected the materialist theories of mind advanced by Hartley and Priestley because of this shortcoming. Not all of them did, though. Some men of science, such as Darwin, accepted the premise that sentience is a function of embodiment and attempted to formulate materialist theories that account for a mind that is active rather than passive. In the first volume of *Zoonomia*, Darwin advances a biological model of cognition that departs radically from Hartley's "physiological Newtonianism" (Danziger 187). Rather than attributing neural transduction to vibrations, he attributes it to sensorial power. Sensorial power is a mutable "secretion" of "the brain and spinal marrow" that actively gathers data from objects in the world and transmits this information to the body and mind by assuming the property of any object with which it comes into contact (Darwin 57). Not only does this substance "possess a power of motion" that enables it to gather sensory data, as opposed to passively receiving it (Darwin 19), it also mediates sensation and "determines the nature of the [organism's] response" to stimuli (Danziger 193). Sensorial power represents Darwin's attempt to formulate a materialist theory that accounts for the mind's activity.

As a practicing physician and botanist, Darwin understood the mind in terms of the organic laws of life, which he distinguished from Newton's laws of physics. Organic in this usage – its original Romantic usage – is not a "specialized term freighted with metaphysical import" (Richardson, *British* 70), but refers to the body and its organs. For Darwin, as for Hartley and Priestley, thought is a function of embodiment, but where the latter two saw thought as a mechanical process governed by Newtonian law, Darwin saw it as an organic and, therefore, active phenomenon. In this way, Darwin tried to improve the earlier accounts mind, which paved the way for materialist theories that did not strip human beings of free will.

Influenced by Darwin, Davy was part of a group of cognitive theorists who extended Hartley's and Priestley's theories during the 1790s and early 1800s by formulating materialist accounts of an active mind. As a chemist, Davy speculated that the mind's active powers were chemical. He saw the mind not as a tablet to be etched by sensory data, but as a phenomenon that is essentially active. It was, in his view, not a blank slate, but a series of (neuro)-chemical processes. He did not, however, arrive at this conclusion right away. His earliest hypothesis, published by Beddoes in "An Essay on Heat, Light, and the Combinations of Light" (1799), attributes the mind's activity to light. Light makes an excellent analogy for the mind because, as "matter of a peculiar kind, capable" of "moving through space with the greatest velocity," it is an impalpable but still material phenomenon (Davy, *Collected Works* 2: 11). Having "relegated his experimental results to a minor role in support for an over-ambitious metaphysical construct," Davy, and his theory, met with criticism from the scientific community because his data were incorrect (Fullmer 154). As a result, he became more cautious in his speculations. He continued, during this period of his life, to accept the materialist premise that "Sensations are affections of the Nerves communicated to the brain," but he concluded that "[i]t would be wandering into Hypothesis to examine whether this affection is a vibration," as in Hartley's system, "or any other" (RI HD/13/e). This lack of empirical evidence to explain neural transduction contributed to Davy's later rejection of the materialist position in favor of the dualist hypothesis. Though Davy did not publish on cognition again, he continued to consider the nature of sentience in his notebooks.

Davy believed that "knowledge of Sublime chemistry" would give humankind "[t]he knowledge of the laws of [its] own existence" by solving the mystery of cognition (RI HD/13/h). His experiments with nitrous oxide gave him the exhilarating impression that he was on the verge of discovering how the mind works. In clinical trials, he administered the gas to patients, friends, and to himself, often with startling results. Some of these friends included Coleridge, Tom Wedgwood, and Robert Southey – who was "rendered giddy," while the others broke out into fits of hilarity (RI HD/20/a). Nitrous oxide appeared to "stimulate the mechanisms of perception and sensation, and thus" seemed to have "the potential to reveal the material causes that underlay them" (Jay 303). Its palpable and undeniable effects on perception increased the plausibility that cognition is a result of material processes. These experiments led Davy to conclude around 1799 or 1800 that cognition must be "a process purely chemical" (RI HD/20/b). The chemical reactions he studied transformed one substance into another, or into a different state altogether, which led him to assert that "this necessarily implies the existence of active powers" in nature (RI HD/2/D/2). This analogy offered proof that cognition could be a material process; it cast doubt on dualist theories that explain mental phenomena in terms of an immaterial principle.

Darwin's findings also supported the hypothesis that the active mind could be accounted for in physiological terms. In *Zoonomia*, Darwin describes a series of visual experiments for his readers to try. Many of these "experiments of Dr. Darwin on ocular spectra" (Davy, *Collected Works* 2: 41) – gazing at colored fabric, pressing on the eyes, or observing the horizon after spinning in a circle, for example – produce afterimages, such as seeing a green circle on the inside of one's eyelids after staring at a piece of red silk, seeing sparks on the inside of the eyelids, or observing a rocking horizon after spinning. These afterimages led Darwin to believe that the "spectra of the eye are not owing to the mechanical impulse of light impressed on the retina," for if the "spectra were impressions on a passive organ, they must continue as they

were received last, or not continue at all” (23). Davy (like Coleridge) seems to have tried these experiments for himself, and like Darwin, noted that “visible imagery perpetually undergoes modification” (RI HD/13/d). This observation led him to theorize in 1800 that the mind has “the power of modifying sensations from the external world” (RI HD/20/a). This ability of the senses to alter sensory data provided additional evidence that the mind is a material process rather than an immaterial substance and that the empirical mind does not have to be passive, as Hartley and Priestley had believed.

A materialist theory of mind is compelling because it solves the primary difficulty of the dualist hypothesis – the mind–body problem. Dualism fails to explain how the material body communicates with and transmits sensations and ideas to the immaterial mind. In a notebook entry written sometime before 1800, Davy accounts for mind–body communication in terms of physiology and chemistry by drawing upon the medical distinction between “irritable matter and perceptive matter” (RI HD/13/e).¹⁴ “Irritable matter,” he explains, “is the contractile muscular fibre,” while “perceptive matter is the medullary substance of the brain and nerves” (RI HD/13/e). When the senses are stimulated, they cause the “muscular fibre” to contract, resulting in “Sensations,” which “are motions of the irritable fibre communicated to the perceptive matter” (RI HD/13/e). The body mediates sensation through “the contractile muscular fibre” before it passes into the nervous system. “Ideas,” in turn, “are motions of the perceptive matter” (RI HD/13/e). Thus, when “Impressions [are] modified by ideas” (RI HD/22/a), this process occurs in the embodied mind. Davy suggests that “irritability might be considered as a chemical change” that stimulates reactions in the nervous system (RI HD/20/a). In this way, he combines chemistry and physiology to provide a material explanation for active mental phenomena often attributed to the soul.

While he was researching nitrous oxide, Davy queried, “May not the truth or falsehood of Hartley’s Theory of the Automatic origin of Voluntary Motion be determined by experiment?” (RI HD/13/e). Around this time, he hoped to establish the truth of materialist theories of cognition through empiricist methodologies. Shortly before this entry, he began a treatise entitled “Memoirs on Anthroponomia or The laws of Human Nature” that was to outline a theory of human nature based on materialist principles (RI HD/13/e). It is clear from the title, which mirrors *Zoonomia, Or the Laws of Organic Life*, that Darwin provided the inspiration for this essay. Though unfinished, it describes the process by which sensory data are transformed into ideas.

A related fragment, entitled “Essay on Ideas,” delineates his theory of cognition during this materialist phase. According to Davy:

The body is every where covered with irritable fibres. The nerves are not primarily affected by the action of external objects on the organs of sense but only thro’ the medium of the irritable fibre . . . Sensations, then, are contractions of the irritable fibre excited into action by stimuli exterior to it. In what manner the nerve is affected we know not. Sensations are affections of the Nerves communicated to the brain . . .

Ideas are similar affections of the brain and nerves, sometimes sufficiently strong to stimulate the muscular fibres & then voluntary motions are the consequence. Ideas are images or types of sensations and increase or decrease in vividness, in proportion to the original causative sensations & are oftener or seldomer impress’d. Whenever Sensations are strong and vivid and accompanied with high degrees of pleasure or pain the corresponding Ideas are proportionally strong. (RI HD/13/e)

Davy describes how sensation is transmitted from objects to the body via the irritable fibres, which serve as an intermediary between the external world and the nerves. He

emphasizes the active nature of irritability and that sensations are not things but motions; they “are contractions of the irritable fibre excited into action.” Cautious in light of the criticisms garnered by his earlier essay and ever respectful of the scientific method, Davy acknowledges that science does not yet know “in what manner the nerve is affected.” Nonetheless, sensation is not only an action of the muscles, but also of the nerves. It is how “the Nerves” transmit information to “the brain,” thus producing particular mental states. Davy analogizes that ideas are produced in a parallel process. They are not immaterial constructs, but “images or types of sensations.” Ideas are material in nature, produced by the action of “the brain and nerves” and are “sometimes sufficiently strong to stimulate” the body into action. The vividness of ideas depends upon a variety of factors, including repetition, as in association, and “high degrees of pleasure and pain.” This affiliation of “pleasure and pain” indicates that sentience was closely tied to emotional experience, or feeling.¹⁵ This relationship between thought and feeling proved fundamental to Davy’s view of genius and creativity, which he theorized are driven by emotion.

Embodied Emotion

The fact that nitrous oxide elicited such an intense emotional response in most of Davy’s test subjects indicated an inextricable relationship between thought and emotion. Since “all . . . sensations” are ultimately “ideas, pleasures, & pains,” sentience is tied not only to embodiment, but also to emotion (RI HD/20/b). In a passage from “Anthroponomia,” Davy connects thought and emotion by asserting that all “Sensations & Ideas are, from the laws of human existence, either pleasurable or painful” (HD/13/e). He further claims that “Human existence may be considered as the perception of an almost infinite number of sensations and ideas presented to the mind successively in different numbers, classes and orders” (RI HD/13/e).¹⁶ All human experience, in other words, arises from a series of emotionally charged sensations.

The relationship between cognition and emotion had been established by Hartley and Priestley. They posited that physical sensation provides the foundation for emotional experience. Hartley called sensations the “internal Feelings of the mind,” which “may be called ideas” (ii). Priestley reiterated this point by asserting that “ideas . . . are not more than . . . those terms expressing actual varieties in our *mental feelings*, occasioned by the impression of external objects” (*Theory* xl). In their accounts of cognition, all sensory experience is accompanied by pleasure or pain; that is, it either feels good or it hurts. This physical sensation, in turn, provides the foundation for our two most basic emotional states: “all our passions are only modifications of these general ones of *fear* and *love*” (*Theory* xxxiii). Until the mid-nineteenth century, the term passion generally referred to uncontrolled bodily desire, but for Priestley and Hartley it signified both mental and emotional states.¹⁷ Not only does their use of this term indicate the mutually dependent relationship between mind and body, it also reveals that feeling is at the very heart of materialist theories of embodied cognition, and not just for Hartley and Priestley, but for those they influenced, Davy included.

As part of the Bristol circle in which Coleridge and, by extension, Wordsworth were involved, Davy shared the poets’ interest in mental phenomena such as creativity, genius, and the imagination. Like them, he saw an intimate relationship between these phenomena. A notebook fragment asserts that “The man of Genius will connect together his ideas & impressions under the influence of feeling” (RI HD/22/a). A few

pages earlier, he notes that “Great powers have never been exerted independent of strong feelings” (RI HD/22/a). Likewise, “vivid feeling always produces vivid ideas” (RI HD/20/b). According to Davy, emotion is the force that drives creativity and, indeed, all human action. By his definition, a genius is a person possessed of a vigorous mind and deep sensibility, which he describes as a “peculiar habit in the base of the intellect by which it combines readily with great quantities of pleasure & pain” (RI HD/22/a). Genius refers to the capacity to experience sensations and the emotion that is attached intensely. Coleridge, too, claims that “sensibility . . . both quick and deep, is not only a characteristic feature, but may be deemed a component part of genius” (*Biographia* 1: 43). The mind actively synthesizes sensory data into ideas, which for Coleridge and Davy is a creative act, and since pleasure or pain accompanies all sensation, feeling is necessarily implicated in this process. While the ability to transform sensation and feeling into vibrant ideas is the mark of all active minds, those who feel more deeply exhibit greater creativity.

The imagination is driven by emotion. For Davy, as for Coleridge, the imagination has two primary functions. First, it helps create a unified perception of the external world; secondly, it is responsible for creative inspiration, both poetic and scientific. In its first synthetic function it is similar to Coleridge’s concept of the primary imagination in that it is the mechanism of basic perception that helps percipients make sense of the world. In Davy’s theory this happens on a rather prosaic level by filling gaps in perception. The brain consistently omits data that are present in the visual field and “constructs the object world that we perceive . . . more economically than we might suppose, simply leaving out details low in salience” (Richardson, *Neural* 21). The missing information is filled in by the mind; thus, we believe we perceive a complete picture, and indeed, we generally do “see” enough of the picture to function and interact with the world effectively.¹⁸ Davy discusses this phenomenon in the language of association, explaining that “our visible imagery occurs in trains, hence when we meet with unconnected images we fill up the intermediate links by imagination” (RI HD/13/d). The missing data, in this account, are generated by the imagination in order to create a cohesive perceptual experience. As in Coleridge’s theory, this is an essentially creative act.

In its second capacity, or what Coleridge terms the secondary imagination, it combines thought and feeling to produce creative ideas. Davy asserts that the “imagination” is “almost always the occurrence of remembered visible imagery under the influence of hope and fear” (RI HD/13/d). In other words, it is memory suffused with emotion. Because all memory stems from sensory experience, which is always accompanied by pleasure or pain, that is, hope or fear, engaging the imagination evokes these emotions. The flashes of brilliance and interpretative leaps that lead to poetry or to scientific discovery are more vivid and original the more powerful the emotion. Yet, the imagination is crucial not only to discovery, but to the generation of all types of knowledge. According to Davy, “the imagination . . . imprints facts more deeply in the reasoning” because it “relieves the dryness of discussion” (RI HD/15/i). Emotion, in Davy’s account, is implicated in creativity, genius, and imagination – some of the most significant mental phenomena to fascinate the Romantic poets.

Embodied Transcendence

Davy’s theory of embodied emotion, which undergirds his theory of transcendence, must be considered within the philosophical context of Romantic cognitive science, which was often expressed in terms of a clash between dualist and materialist

philosophies.¹⁹ The common eighteenth-century understanding of mental phenomena depended on substance dualism. In Priestley's succinct definition, dualists advance "the hypothesis of two *heterogeneous and incompatible principles in man*," which are entirely discrete and profoundly polarized (*Disquisitions* 61). Thinkers such as Descartes, Malebranche, Leibniz, and, further into the eighteenth century, Scottish Common Sense Philosophers Thomas Reid, James Beattie, James Oswald, and Thomas Brown held that the soul or some other immaterial principle is responsible for sentience. They further believed that a transcendental realm must exist either as a repository for this immaterial principle or for abstract ideas. According to Brown, a representative dualist who made a name for himself by critiquing Darwin's *Zoonomia*, human beings would be unable to comprehend complex ideas if they did not exist transcendently. In Platonism and its variations, material objects are imperfect copies of their immaterial counterparts, the ideal forms. The transcendental realm, according to dualists, is the source of abstract knowledge and general principles, which exist independently of any particular instantiation of them. Human beings perceive these absolute truths through the soul, the mind, or through an immaterial sentient principle, depending on the theorist.²⁰ Abstract ideas, in this view, must exist in an ideal realm; otherwise it would be impossible for people to have them.

In a notebook composed while he was in Bristol, Davy discusses the classic Romantic cognitive science example, which both dualists and materialist use to defend their respective positions, to debunk the idea of a transcendental realm – the concept of a triangle. In the dualist hypothesis, the idea of a triangle must exist as a general idea – that is, as an immaterial entity – in a transcendental realm. Brown articulates this position by asserting that we can "have a general idea of the nature of triangles" only if "their common properties may be objects of thought, without reference to particular degrees" (151). In this view, the properties of a triangle must exist irrespective of particular instantiations of actual triangles in the physical world. We can only understand a triangle abstractly if we take its "idea for granted, as previously existing" before "the figure of an external object" (203). He concludes that "the existence of general ideas" must be "a necessary part of the phenomena of mind," which he views as immaterial (149). Under dualism, both ideas and the sentient principle are part of an immaterial, transcendental reality that animates the material realm.

In the materialist view, however, abstract ideas such as triangles – or even benevolence – are amalgamations of multiple material objects and events that have been perceived throughout the course of daily life. According to Beddoes, "the ideas of a triangle . . . are all acquired by the exercise of the senses. It is evident, that we cannot in any other way acquire them" (21). Beddoes argues that all mathematical concepts, which Kant and others used to prove the existence of the transcendental realm (94), are founded in the physical world. Elaborating Beddoes' assertion, both Darwin and Davy offer explanations for how people gain conceptual understanding of something like a triangle. They do so by extrapolating the ideas of many actual triangles that they have seen and by synthesizing them into the abstract notion of an object that has three sides and three angles. Darwin asserts that "we can be sensible to a number of ideas at the same time" and can, therefore, "form compounded ideas from those which, were more simple; and abstract ones from those, which were more complex" (89). For example, when we see or touch a tri-cornered hat, we receive a variety of information about it, such as color, shape, and texture. One idea that we get from such a hat is the idea of a triangle because we abstract simpler ideas, such as angles or lines, from complex objects. In the materialist view, abstraction

is a process by which “we narrow the sphere of sensations and dwell upon impressions” (Beddoes 28). The processes by which the mind abstracts and synthesizes sensory data were considered proof of an active material mind. Dualists objected to this hypothesis and insisted that “general ideas . . . are not repetitions of any particular motions” in the brain or nervous system, but transcendental concepts (Brown 132).

In his notebooks, Davy responds to objections such as Brown’s by attributing the power of abstraction to the active mind. According to Davy:

all Triangles that we have seen are representations on the retina of a space of a peculiar figure included by three right lines. The best Triangle we have seen supposes to be right angles. The next we see oblique $<^{\circ}$ [angles]. The oblique angled Triangle raises in our mind by the association of resemblance to the oblique $<^{\circ}$. If we afterwards see an obtuse $<^{\circ}$ Δ it will probably raise the ideas of this other & thereby being frequently raised in succession of association will at length be raised synchronically & hence will a peculiar complex idea of a triangle exist in the Mind. Whenever we see a peculiar figure with three sides & three $<^{\circ}$ it directly raises by association, the complex idea of a Δ . (RI HD/13/e)

In this explanation, the image of a triangle is perceived by the eye, and the mind abstracts the data from the actual triangle by noting that it has “three right lines.” The next time the eye sees a triangle, the mind will recall having previously seen something similar. Regardless of whether the triangle is obtuse or oblique the mind recognizes the abstracted features. It conflates all the images of these actual triangles, until eventually they are “raised synchronically.” That is, they are imagined all together so as to form “a peculiar complex idea of a triangle.”

Davy affirms that “abstracted ideas certainly do not exist” (RI HD/13/e). Thus, there is no ideal triangle that exists transcendently. Yet, neither is it the idea “a particular Triangle, as it is possible we have never seen such a thing before” (RI HD/13/e). Instead, the idea of an abstract triangle is a “mental feeling” that has been created by the mind (RI HD/13/e). Because the mind is a series of active processes, it has the ability to abstract data from objects in the world and synthesize them into conceptual abstractions that exist as an embodied “feeling.” In this way, Davy explains away the necessity of a transcendental realm that is required for the mind to understand abstractions. Based on this account of abstract thought, I argue that in Davy’s view transcendental experiences are not moments when the mind is free of bodily constraints, but moments of embodied emotion.

Davy did not stop at refuting the existence of a transcendental realm; he also sought to understand how such a belief could have originated in the first place.²¹ In an interesting reversal of the transcendentalist definition of the ideal, Davy defines it not in terms of immateriality, but as an embodied mental state. He asserts that “when the impressions or trains of impressions exist without the physical pleasure or pain, they call up ideal pleasure or pain, i.e. hope or fear – so that physical pleasure & pain are to hope & fear what ideas are to impressions” (RI HD/20/b).²² In the letter to Tobin written around the same time as these notes, Davy questions the definition of reality as posited by thinkers such as Hume and Berkeley.²³ Though arguing from different philosophical positions, these two agreed that we cannot know the external world, but only our perception of it.²⁴ Davy considers this claim with respect to the misperception of external objects. He presents the case of “a man who . . . in a fit of fear” thinks he “has seen a devil in a black cow” (BRB 4203). In explaining how this could happen, Davy calls the hallucination an “ideal devil” (BRB 4203), or a devil that exists only

in the mind. He conjectures that “having the idea of this devil in his mind of a certain vividness,” the man sees a cow and the “impression . . . coalesce[s]” with the “ideal devil” (BRB 4203). In other words, the man has a vivid image of a devil in his mind and when he sees a cow the impressions of the “ideal devil” and the real cow mingle, thus causing misperception. In these accounts, the ideal is the memory or thought of amalgamated objects and their attendant sensations. In the absence of the actual stimuli, they are “raised synchronously” as memories or, in the case of the frightened man, as hallucinations (RI HD/13/e). These images occur in the sensorium, that is, in the central and peripheral nervous systems.

Davy recognized that abstract ideas can indeed seem immaterial. In his Penzance notebook, he states that “One may consider whiteness, yellowness and sound as immaterial when we abstract them from Matter” (RI HD/13/f). Acknowledging this fact helped him account for how a belief in immateriality came into being. Regarding the origins of dualism, he speculates that humankind “first gained the idea of the immateriality of the soul from the following considerations: Reasoning abstractedly concerning his ideas, he found them shadows without substance. He therefore supposed them to be immaterial” (RI HD/13/f). It is certainly feasible that when human beings consider their own thoughts in the absence of the original stimuli, they might come to the conclusion that they are naught but shadows playing on the side of Plato’s cave. Pondering color in the absence of a colored object, one might reasonably assume that it exists independently of its material instantiations. One might conclude that abstract concepts exist transcendently. “Yet,” Davy argues, “without substance they [ideas of whiteness, yellowness, and sound] never wou’d have existed” (RI HD/13/f). Abstractions are contingent upon matter. According to Davy’s logic, transcendence itself is an abstract idea in the embodied mind.

Davy applied this understanding of the transcendental realm to other cognitive phenomena that preoccupied the Romantics. Drawing on his concept of the embodied mind, he describes transcendent experiences – such as the sense that people of genius can connect synchronously across the ages; athanasy, or the feeling of immortality; and sublime encounters in nature – in terms of embodiment. As with imagination and genius, they depend on embodied emotion. Experiences in which one seems to leave the body behind and is “no longer connected with the earth” are not necessarily moments in which the unfettered mind touches the numinous (RI HD/20/a). If there is no transcendental realm that exists separately from the material world, synchrony, athanasy, and the sublime – all moments of “genuine transcendence” (Furniss qtd. in Sarafianos 60) – must be embodied emotional experiences.²⁵

During his visit to Tintern Abbey, Davy not only “seemed to mingle with nature,” he experienced a kind of synchrony in which he felt connected to the minds of other people who were not physically present (RI HD/20/a).²⁶ He also felt a sense of athanasy as he pondered the former inhabitants of the ruins. Davy’s record of his visit depicts the type transcendent experiences commonly found in Romantic poetry. At first blush, he seems to offer a dualist account of transcendence, but a closer reading – one that attends to Davy’s arguments against dualism, immateriality, and a transcendental realm – reveals that his early concept of transcendence can be read as materialist. Transcendence is not disembodied in this account, but an experience of intense emotion. Enchanted by the moonlight filtering through the window, Davy recounts:

I pursued the dazzling of the moonbeams; I raised myself above the stars & gave imaginary beings to the immeasurable paths of ether: but when I cast my eyes on the sad remains

of mortality, when I considered that in that deserted spot where the song of the nightingale, of the whispering wings of the bat were the only signs of life, a thousand thoughts, at once an immense mass of pleasurable feelings had rolled through the minds of kindred intelligent beings, I was lost in a deep and intense social feeling . . . connected together I ceased to feel alone –. (RI HD/20/a)

The experience described here, in which Davy envisioned “imaginary beings” in “immeasurable paths of ether,” can only be described as transcendent. As the chemist considered the solitary scene, he presumed that others who had observed this prospect must have experienced similar sensations, must have thought “a thousand thoughts,” and felt the same “immense mass of pleasurable feelings” as he. He speculatively attributes these feelings to the monks who once occupied the Abbey, “the sad remains of mortality.” Yet, having read “Tintern Abbey,” he also knew that Wordsworth had a similar experience. The poet describes feeling the same “pleasures” (“TA”119) and the same sense of a “spirit that impels / All thinking things, all objects of all thought / And rolls through all things” (100–2). Wordsworth, then, is one of “the minds of kindred intelligent beings” with whom Davy felt himself “connected together” in this moment. Presumably, Davy also felt “connected” with Coleridge, who had introduced him to the joys of poetry.

Transported by the exhilarating feeling of being connected to other minds, Davy “ceased to feel alone” and became “lost in a deep and intense social feeling” (RI HD/20/a). The words “feel” and “feeling” can be read in the context established above in my readings of Davy’s notebooks and his participation in the cognitive science debates. He *felt* himself to be in the company of other great minds – the poets’ and the monks’ – whom he presumes had experienced the same thrill of pleasure. He was not, of course, connected in any actual Platonic union with these spatially and temporally distant individuals. Rather, the synchronic bond that he had with these “kindred intelligent beings” was a strong feeling of sympathetic intellectual and emotional connection triggered by an embodied encounter with the external world. Given his demystification of transcendentalism in his account of abstract thought, Davy presumably recognized that his feeling that he could commune with others irrespective of the limits of space and time was precisely that – a feeling. What Davy describes in this passage is a rapturous, but embodied, emotional experience.

As one feeling gave way to another, Davy began to ponder the material nature of thought, feeling, and life itself. He continues, “I began to feel & to reason” and asks, “What is existence, what is this eternal series of changes in thought & sentiment?” (RI HD/20/a). Like others involved in the cognitive science debates, Davy wanted to discover the underlying laws that structure perception, which he assumed were similar to “the laws by which the physical phenomena of the universe are ruled” (RI HD/20/a). Similar to Hartley, Priestley, Darwin, and Beddoes, he believed they were fixed and bound by natural law, though not necessarily Newtonian law. He also saw a connection between sentience and “moral phaenomena,” which, like Wordsworth, he believed were governed by feeling (RI HD/20/a).²⁷ In defining “existence” as a “series of changes in thought & sentiment,” Davy defines ontology in terms of phenomenology. Our states of being are driven by our thinking and feeling states, which in turn drive our experience of being. This relationship between feeling and being is contingent upon the embodied mind, and transcendence is an ontological moment of emotion experienced phenomenologically as leaving the material world, including the body, behind.

Davy abruptly interrupts his musings about the laws of perception as his thoughts return to the monks. He considers the nature of not just life, but also death:

Nothing remains of them but their mouldering bones, their thoughts & their names have perished. – Shall we too sink in the dust, shall we too like these beings in the course of time be no more. – shall that ever modified consciousness be lost in the immensity of being[?] (RI HD/20/a)

Embedded in this ostensibly transcendental question is an indication of Davy's materialist leanings. Davy notes that the monks' "thoughts . . . have perished" even if "their mouldering bones" have not. This observation contradicts dualist theories of cognition that assert that thoughts never pass away because they are part of the imperishable, immaterial soul. He wonders, though, if his individual "modified consciousness," that of his friends, and other people of genius will "sink in the dust" and "in the course of time be no more." Will they be effaced by the "immensity of being," the vastness of life, which stretches endlessly behind and before them? Life and death, as vast and unfathomable phenomena, conform to Burke's definition of the sublime in that they are events so immeasurable that "the imagination is lost as well as the sense" (81). It is this sense of unfathomability combined with Davy's early materialism that provides another way to understand this account of athanasia.

Like Coleridge in the *Biographia*, Davy concludes:

No my friend individuality can never cease to exist. That ideal self which exists in dreams & reveries, that ideal self which never slumbers is the child of immortality & these deep intense feelings which man, sometimes perceives in the bosom of Nature & deity, are sentiments of a more sublime & energetic state of existence. (RI HD/20/a)

Unlike Coleridge, however, who desperately needed to believe in an immaterial soul that could control the unruly (i.e., addicted) body, Davy understood this sense of immortality as "deep intense feelings." As we have seen above, "ideal" for Davy does not carry the same connotations as it did for Coleridge, Berkeley, or the German transcendentalists. It refers to memories of actual sensations that have been transformed by chemical impulses and stored in the body. This is, perhaps, what Davy means when he refers to "consciousness" as "modified." Materialist theories of cognition described perception as modifications of the nerves by external stimuli. The ideal self, too, may refer to "the idea of self" (*Disquisitions* 88), as Priestley defines it, rather than a transcendental self that exists independently of the body. In this passage, the "child of immortality" exists in mental phenomena. It is remembered in "dreams" and resurrected as the subject of "reveries." It does not exist as an ontologically separate entity from the embodied self.

While the phrase "cease to exist" conjures thoughts of death or the potential demise of "individuality," it also refers to experiences in which the self is subsumed and overwhelmed by transcendental encounters – "swallowed up in impression," as it were (RI HD/20/a). According to Richardson, a number of Romantic-era cognitive theories "implied a split or fragmented subject, [and] cognition in the absence of conscious volition or supervision," or moments in which the subject acts without conscious awareness (*British* 45). The possibility of the potential loss of self implicit in these theories made many Romantic poets and scientists anxious. The poets feared union with the other as much as they desired it. The rapturous experiences depicted in Romantic poetry point to this dissolution of self and the attendant fear that the "poetic self runs the risk of losing

its ‘habitual self’ amidst the vast universe of things” (Sandy 124). While Davy may be musing on death and the possibility of eternal life, in effect he describes the experience of getting “lost in the immensity of being,” which is denoted by the mirroring of “deep intense” human “feelings” in “the bosom of Nature & deity” (RI HD/20/a). The illusion of commingling with “Nature & deity,” merging with other minds, or communing with the infinite can cause feelings of ecstasy that are accompanied by a sense of dissolving personal boundaries and losing oneself. Alongside interpretations that consider this passage as a commentary on the afterlife, it can also read as Davy’s affirmation of his intact individual subjectivity in the face of being subsumed by bodily sensation.

The emphasis in this passage is on “deep intense feelings” that human beings experience in transcendental encounters and that seem to prefigure something more than ordinary life (RI HD/20/a). They are, according to Davy, “presentiments of a more sublime & energetic state of existence” (RI HD/20/a). The question is: what do these feeling portend? What is the nature of this “more sublime & energetic state of existence?” On the surface, it appears to be a “future State” of existence (Hartley 82), or life after death. “Future State,” however, was a specific and common term in the discourse that was employed by thinkers such as Hartley, Priestley, Coleridge, and Wedgwood. It is odd, then, that Davy did not use this precise term. The modifiers “sublime & energetic” are also telling because they have special import in the discourse on materialism. Materialists pointed to imponderable phenomena such as light, magnetism, and electricity to argue against the existence of an immaterial substance. Davy’s conception of light as a subtle but still material phenomenon that is taxonomically a type of energy helps us understand the term “energetic” as a descriptor of this new “state of existence” (RI HD/20/a). It is still a material state, so the “state of existence” to which Davy refers does not necessarily transcend space and time, but is a feeling of deathlessness or immortality, that is, *athanasy*.

Other notebook entries written around this time indicate that the phrase “sublime & energetic” alludes to an emotionally intense state of being rather than to eternal life (RI HD/20/a). While the sublime is linked to Burke’s and Kant’s treatises on aesthetics, it was originally a concept associated with chemistry that refers to the transformation of solid matter into vapor (Sandywell 559). Though solids change and seem to immaterialize in sublimation, they are still material substances; matter does not become immaterial during the process. The sublime, then, is implicated in “medical and scientific thought as well as literary and aesthetic thought” (Ruston 132). As a chemist and a friend of the poets, Davy would have been familiar with both. Ruston contends that for Davy the “sublime is experienced in the body,” which is similar to Burke’s conception, “but it transports its subject beyond the body, though not necessarily beyond the self” (133). Where she asserts that Davy’s conception of the sublime is similar to Kant’s, I argue that the sense of transport he describes is not exulted reason, but an embodied feeling.

In an 1800 notebook entry, Davy refers to “sublime energy” as a feeling that “still burnt in my bosom” (RI HD/13/d). Here, this “source of immortal activity” burns in the heart (RI HD/13/d); it is embodied. In a later entry (likely written in 1801 or 1802), Davy asserts that “The feeling of sublimity is never a simple feeling,” rather it surfaces “during the growth of intellect & it owes its development [sic] to peculiar phenomena” (RI HD/15/j). In fact, “[b]y the common laws of humanity beings are neither made sublime or energetic,” rather

[t]he brilliant & delusive visions which mingle present existence with the future & the past, which tinge with the vivid colorings of imagination the simple, the perpetually occurring forms of life, exist only for those beings to whom ~~organisation~~ nature has given sensibility. (RI HD/15/j)²⁸

In this passage, the sensation of present, past, and future existence commingling is a “feeling of sublimity” rather than a presentiment of life after death. Furthermore, it is an experience that is not open to everyone, but to those with rich imaginations and deep sensibility. Reading Davy’s description of athanasia within the context of his background in chemistry, other notebook entries composed around the same time, and his use of the term “sublime” reveals an alternative view of presentiments of immortality. They are not necessarily glimpses into a transcendental realm where immaterial souls persist after death, but feelings in the body.

Looking at Davy’s notes on transcendence in terms of materialist cognitive science invites new perspectives on Romantic poetry, for his ideas were not anomalous in the period. Indeed, the representation of transcendence presented in some of Coleridge’s and Wordsworth’s early poetry resonates with Davy’s concept. When Coleridge refers to certain aesthetic and sublime experiences as “modes of inmost being, to which . . . the attributes of time and space are inapplicable and alien,” he describes the phenomenological sense that human beings are somehow connected to something greater than the here and now (*Biographia* 2: 147). This is the experience, described by Davy in this notebook, that the poets tried to capture and recreate in their poetry – the ineffable sense of life’s sometimes terrible vastness that can overwhelm and subsume the individual. Wordsworth’s “Tintern Abbey,” which contains descriptions of transcendental experiences that parallel Davy’s materialist account of transcendence, is one such representative poem. While it is often read as an apotheosis of the power of the mind to transcend materiality, I argue that it relies on a materialist understanding of transcendence that is based on a theory of embodied cognition.

Critics such as Levinson, Jerome McGann, Keith Thomas, and Jonathan Wordsworth interpret “Tintern Abbey” in transcendentalist terms. They look particularly at the lines that serve as the epigraph to this article. In these lines, Wordsworth describes the experience of being “laid asleep / In body” (“TA” 46), which they see as expressing, or at least foreshadowing, transcendentalism. According to McGann, these lines signal “the actual moment when a spiritual displacement occurs – when the light and appearances of sense fade into an immaterial plane of reality” (87). This interpretation, however, obscures certain crucial structural and linguistic features of the poem. The purported idealism in these lines in this sort of reading supersedes everything that comes before and after. Though these critics rightly read “Tintern Abbey” as a meditation on mind, in my reading the mind does not simply provide an escape into solipsistic fantasy, but is necessarily contextualized by its connection to the material world via the body. I argue that the structure and language of “Tintern Abbey” unequivocally set up a relationship in which the mind depends on and is contained within the body.

Structurally, the poem moves from concrete sense data to memory before turning to the transcendent experience of communing mentally with the natural world. This order, along with the order of verbal description, tacitly depicts mental experiences that are not an escape from, but contingent upon, bodily sensation. In the first stanza, Wordsworth describes the view from above the Abbey, both its present appearance and the way it looked when he visited five years earlier. This stanza, which is entirely

devoted to sketching out the scene in epicurean detail, sets up the transcendent experience presented in stanza two. The image of “waters, rolling from their mountain-springs / With a sweet inland murmur” (“TA” 3–4), the sight of the “dark sycamore” (10), “plots of cottage-grounds” and “orchard tufts” (11), “the wild green landscape” (15), and “hedge-rows, hardly hedge-rows” richly and sensuously evoke the tangible sights and sounds of the scene (16). Likewise, the “wreathes of smoke” invoke scent (18). Not only do these details call attention to the concrete experience of seeing, hearing, and smelling the prospect laid out before the poet and the reader, they also precede the mental recollections depicted in the next stanza. The catalogue of sense data comes before the account of the memories that sustain the poet during his time in London, indicating that memory depends upon these data, which are stored in the body.

The word “Revisiting” in the title and the phrase “Once again” in stanza one indicate that Wordsworth is not merely meditating upon the present scene, but also working in the realm of memory (“TA” 4, 15). While this may seem obvious, it is important to linger, as Wordsworth does, on the mnemonic stage rather than passing too quickly to the transcendental experience. Memory in this poem, as in materialist accounts of cognition, is experienced as bodily sensation. The “forms of beauty” are not Platonic ideals (“TA” 24), but are mediated by the body before they pass “into [the] purer mind” (30). In Romantic materialist cognitive theory, memories represent actual sensory experiences. During the process of recollection, they are felt in the body. For both Hartley and Darwin, remembering past experiences stimulates the body in the same way as in the original moment of perception, albeit with decreased intensity. Hartley speculates that “ideal Vibratiuncles” occur in the absence of sensory stimuli and replicate the same physiological response as the original experience (102). These vibratiuncles are responsible for the bodily sensations experienced during the mnemonic act. Darwin, too, claims that recalling ideas causes the same motions to repeat within the sensorium as in the original perceptual act. In other words, powerful memories elicit a physiological response in the nerves and brain that is similar to the original experience. This response, however, is not restricted to the nervous system, but spreads to the entire body.

The physiological response described in “Tintern Abbey” mirrors this materialist account of memory. To mitigate the painful isolation he experiences “in lonely rooms, and mid the din / Of town and cities” (“TA” 26–27), Wordsworth recollects his visit to the ruin so that he may relive the experience. “In hours of weariness” (28), he calls to mind memories that replicate the physiological response he felt on his first visit to the River Wye. The “sensations sweet” (28) are “Felt in the blood, and felt along the heart” (29). Note that they are tangibly “felt” in the body. Again, structurally and verbally, this embodied experience precedes the transcendental experience of “passing even into my purer mind” depicted in the next line (30). Whether Wordsworth believed with Hartley that vibrations cause this phenomenon or with Darwin that the method of neural transduction is sensorial power, he gives an account of memory that is consistent with empiricist explanations. Further into the stanza, Wordsworth begins to describe mental experiences that have been classified as transcendental by many critics. Structurally, the order is again important because memory precedes transcendence. Furthermore, the transcendent experience in these lines is also depicted as an embodied experience.

After Wordsworth’s relates his conscious memories, he takes up the unconscious ones, the “unremembered pleasures” that (“TA” 32), though he cannot clearly recall

world” (53–54). To calm the body, then, is to calm the mind; and, conversely, to calm the mind is to calm the body. Thus, the stanzas that are often interpreted as entrenched in transcendentalist philosophy illustrate the mutual co-dependence of mind and body.

Wordsworth’s return to the present scene in the next stanza, “with gleams of half-extinguish’d thought” (59), can also be read within this context of embodied cognition that informs the meditation on his changed relationship with nature. The “glad animal movements” that characterized his childhood experience of the natural world have not been replaced (75), but rather enriched by the disappointments of adulthood because he has discovered that he is able to call upon his earlier experiences to sustain him emotionally. In stanza three, Wordsworth explicitly acknowledges “That in this moment there is life and food / For future years” (65–66). As he senses the present stimuli, mediated by his recollection of past sensation, he knows he is storing memories that he can relive in future times of doubt and travail. “[T]he joy / Of elevated thoughts” and the “sense sublime / Of something far more deeply interfused” (95–97) with the natural world and “in the mind of man” (100) can be understood in materialist terms. The description of “A motion and a spirit, that impels / All thinking things, all objects of all thought, / And rolls through all things” resonates with Davy’s description of light as a subtle material energy (101–3). The “motion” recalls the movement of the active mind described by materialists, and several lines later Wordsworth employs the language of association.

The poet informs his auditor and his audience that nature “can so inform / The mind that is within us,” if we but let it “impress” and “feed” our minds “With lofty thoughts” (126–29). These impressions are not etched onto a passive mind, but as in Darwin’s and Davy’s accounts of sentience, actively mediated by the body. The “eye, and ear, – both . . . half create” and “perceive” (106–7).³¹ These perceptions, which recall the primary imagination described by Davy and Coleridge, are the thoughts that sustain us against the vagaries of life. They highlight not the immateriality of thought, but the materiality of its source. As Wordsworth states, again explicitly, he is “well pleased to recognise” that the ostensibly transcendent mind is embodied, for “nature and the language of the sense” provide “The anchor of my purest thoughts” (108–10). Here, we see that even the most transcendent mental experiences have corporeal origins. The “purer mind” (30) and one’s “purest thoughts” (110) are based on physiological processes, which are anchored in nature and in the body.

In “Tintern Abbey,” Wordsworth depicts transcendence as Davy describes it – as “deep and intense feelings” that are experienced on the bodily level (RI HD/20/a). The transcendent experiences depicted in the poem point to “a central paradox of feeling, its simultaneous temporal and a-temporal character” (Miall 252).³² While emotion is felt in a particular moment, it is also available to be recollected and relived beyond the initial experience. Thus, it seems somehow to transcend time. This “transcendence of the temporal,” I argue, is a way for Wordsworth to articulate the “significance in the feelings” he attaches to the ruins of Tintern Abbey (252). Transcendence is not, *de facto*, a disembodied experience, but a feeling evoked by sensory data that highlights specific, significant moments. For Wordsworth, as for Davy, transcendence may be understood as an embodied emotional experience and not necessarily as a moment in which the soul contacts an immaterial realm that exists independently of the sensible world.

Clearly Davy did not influence the composition of “Tintern Abbey,” given that it was written before he and Wordsworth met. Nonetheless, reading poems such as this one within the context of materialist cognitive science sheds new light on how the

poets represent not only the experience of transcendence, but the relationship between the body and the mind. In fact, the poem's precedence to Davy's speculations suggests some interesting lines of influence. Though biographer June Fullmer, a chemist herself, denies that the poets had any influence on Davy, the fact that Davy visited Tintern Abbey and contemplated subjects such as genius, imagination, and transcendence indicates otherwise.³³ Roger Sharrock argues that though "Davy may have derived his association from Hartley. . . Wordsworth was the intermediary" (68). If Davy's ideas about embodied transcendence were instigated by his conversations with Coleridge and by reading Wordsworth's poetry, then perhaps it is time to re-examine the poets' relationship to transcendentalism, materialism, and British empiricism and, even more importantly, the role of the body in their theories of imagination.

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Notes

1. The full title is "Lines Written a Few Miles Above Tintern Abbey, on Revisiting the Banks of the Wye During a Tour, July 13, 1798." For brevity and in accordance with scholarly convention, I refer to this poem as "Tintern Abbey" or "TA" in citations.
2. References to the Notebooks are designated by archive and notebook numbers. For ease of reading, I have silently corrected archival manuscript quirks by writing out abbreviations in full, eliminating crossed out words, and amending other minor issues of this nature.
3. For Davy's biography, see Knight; Fullmer; and Holmes.
4. Notebook HD/13/f.
5. This commentary takes the form of insertions above certain sentences. These additions are framed by the following note: "These Observations were at 16 years & half – What a revolution in my opinions since that, now 9 years & 1/2" (HD/13/f).
6. Notebook HD/13/e.
7. Ruston confirms this view, noting that "Davy's early notebooks show that the young Davy flirted with materialism" (132–33). She dates his capitulation to 1802, though in my estimation his interest in it may have lasted a few years longer.
8. See "Dialogue the Fourth. The Proteus, or Immortality," *Consolations* (143–55). The character called The Unknown states that "there have been distinguished physiologists who have imagined that by the organisation powers not naturally possessed by matter were developed, and that sensibility was a property belonging to some unknown combination of unknown ethereal elements. But such notions appear to me unphilosophical, and the mere substitution of unknown words for unknown things. I can never believe that any division, or refinement, or subtilisation, or juxtaposition, or arrangement of the particles of matter, can give to them sensibility; or that intelligence can result from the combinations of insensate and brute atoms" (145). The character most closely aligned with Davy agrees with this position. Furthermore, throughout his notebooks Davy exhibits concern about the unphilosophical use of language in which words are speciously substituted "for unknown things."
9. John Thelwall and Tom Wedgwood, for example.
10. See Yolton; and Jacyna, who deals with these debates in the nineteenth century.
11. See Schofield; and Allen.
12. The question of Locke's philosophical orientation is a matter of debate. See Yolton; Aaron; and Hannan.

13. Locke opens his treatise by declaring that he shall “not meddle with the physical considerations of the mind,” its relationship to “our bodies,” or whether “ideas do, in their formation . . . depend on matter or no” (1).
14. Davy is unique in using the term “perceptive matter.” Eighteenth-century medical discourse commonly juxtaposed irritable and sensible matter, but almost nobody used the phrase “perceptive matter.” A search of eighteenth and nineteenth-century full-text databases shows only three, one of which is Henry More’s seventeenth-century *The Immortality of the Soul* (1659), which was reprinted in 1712. Using the adjective “perceptive,” rather than “sensible,” to modify the noun “matter,” Davy extends the terminology. The phrase indicates that some parts of the body are not merely responsive to external stimuli, but are, in fact, responsible for perception. The scholarship on sensibility has widely discussed sensibility and irritability. See Todd; Barker-Benfield; Vila; and Robertson. Sarafianos discusses medical discourse in relation to Burke’s theory of the sublime.
15. Wedgwood, who moved in the Bristol Circle, was also interested in the relationship between pleasure, pain, cognition, and feeling.
16. Compare Wedgwood: “The existence of Man is a series of perceptions” (WM E40-28457).
17. For a history of the term “passion” and its evolution into “emotion,” see Dixon.
18. Davy’s theory is similar to contemporary accounts of vision. Richardson discusses these accounts in *The Neural Sublime* (17–22).
19. See Yolton; Richardson; Schofield; Piper; Jackson; and Whitaker, Smith, and Finger.
20. Both Yolton and Jacyna present the wide range of positions advanced by thinkers in the eighteenth and nineteenth centuries.
21. Wedgwood also speculated about how humanity came to believe in immateriality.
22. Compare Hartley’s ideal vibratiuncles.
23. Davy mentions neither Hume nor Berkeley in the letter, but he appears to be engaging with Hume’s skepticism rather than Berkeley’s idealism.
24. Kant responds to this assertion in *Prolegomena to Any Future Metaphysics* (1783) and *Critique of Pure Reason* (1787).
25. In thinking about a physiological basis for the sublime, Davy was preceded by Edmund Burke. As Sarafianos argues, Burke draws on medical discourse, particularly “the study of pain [that] was fast becoming central to the development of modern medicine in the fields of experimental physiology and vitalist theory” in his account of the sublime (59). Burke, however, was concerned with aesthetics in particular rather than transcendence, which is not always terrifying, in general. Here, I consider the sublime as one species of transcendent experience that differs only in degree, not in kind (to use the language of materialism).
26. It is worth mentioning that Percy Bysshe Shelley presents a similar type of synchronic connection in “Ozymandias” (1817/1818).
27. See Wordsworth’s essay fragment “An Essay on Morals” (circa 1798).
28. The phrase “tinge with the vivid colorings of imagination the simple, the perpetually occurring forms of life” replaced “modify sensible pleasures & pains by intellectual passions” (HD/15/j). I retained the deleted word, “organisation,” in the quotation (replaced by “nature”) because this term is at the center of the mind–matter debates. See Yolton, Richardson, and Jacyna.
29. A discussion of unconscious memory and its relationship to the body is beyond the scope of this article and is best considered in conjunction with *The Prelude*, a topic I take up elsewhere.
30. Eighteenth-century and Romantic-era medical discourse addressed the interdependence of mind and body. In addition to Darwin, see Falconer. For scholarship on this subject, consult Sarafianos; and Matlak.
31. Elsewhere I argue that Wordsworth’s theory of mind and imagination are best understood not as wholly materialist or transcendentalist, but in terms of enaction, a late twentieth-century cognitive theory.
32. Though Miall makes this argument about the spots of time in *The Prelude*, I apply it to “Tintern Abbey.”
33. Fuller focuses on Coleridge, claiming that while “Coleridge depended on Davy for enlightenment about science, of which he admitted he knew not ‘an iota’ . . . Davy, supremely independent, never willingly sought anyone’s help in intellectual matters” (139).

While Coleridge occasionally consulted Davy about chemistry, including advice on how to set up a laboratory, his reading in British empiricism and German *Naturphilosophie*, was extensive. As Levere cogently demonstrates, Coleridge was competent in many branches of science without Davy's assistance.

References

- Aaron, Richard. *John Locke*. Oxford: Oxford UP, 1936. Print.
- Allen, Richard C. *David Hartley on Human Nature*. Albany: State U of New York, 1999. Print. SUNY Ser. in the Philos. of Psychology.
- Barker-Benfield, G.J. *The Culture of Sensibility*. Chicago: U of Chicago P, 1992. Print.
- Beddoes, Thomas. *Observations on the Nature of Demonstrable Evidence; with an Explanation of Certain Difficulties Occurring in the Elements of Geometry: and Reflection on Language*. 1793. *Eighteenth Century Collections Online*. Gale Group. Web. 6 Jul. 2013.
- Brown, Thomas. *Observations on the Zoonomia of Erasmus Darwin, M.D. By Thomas Brown, Esq.* 1798. *Eighteenth Century Collections Online*. Gale Group. Web. 6 Nov. 2008.
- Burke, Edmund. *An Essay on the Sublime and the Beautiful*. 1757. London: Cassell and Company, 1905. Print.
- Coleridge, Samuel Taylor. *Biographia Literaria; or Biographical Sketches of My Literary Life and Opinions*. 2 vols. 1817. Ed. James Engell and W. Jackson Bate. *The Collected Works of Samuel Taylor Coleridge*. Vol. 7: 1–2. General ed. Kathleen Coburn. Princeton: Princeton UP, 1983. Print.
- . *Collected Letters of Samuel Taylor Coleridge*. 6 vols. Ed. Earl Leslie Griggs. London: Clarendon P, 1956–1971. Print.
- Danziger, Kurt. “Origins of the Schema of Stimulated Motion: Towards a Pre-History of Modern Psychology.” *History of Science* 21.2 (1983): 183–210. *Historical Abstracts*. Web. 24 Oct. 2010.
- Darwin, Erasmus. *Zoonomia, Volume I Or, the Laws of Organic Life*. 1794. Teddington: Echo Library, 2007. Print.
- Davy, Humphry. *The Collected Works of Sir Humphry Davy*. 1839. 19 vols. Ed. John Davy, M.D. F.R.S. New York: Johnson Reprint Corporation, 1972. Print.
- . *Consolations in Travel, or The Last Days of a Philosopher*. 1830. London: Cassell, 1899. Print.
- . *Letter to James C. Tobin. 21 March 1800. Beinecke Rare Book and Manuscript Library*. Yale University. New Haven, CT. MS.
- . MS Notebooks HD/2/D/2 (19 March 1808), HD/13/d–13/f (1795–1802), HD/13/h (n.d.), HD/15/i–15/j (n.d.), HD/20/a–20/b (1799–1800), HD/22/a (n.d.). The Royal Institution of Great Britain. London, UK. MS.
- Dixon, Thomas. *From Passions to Emotions*. Cambridge: Cambridge UP, 2003. Print.
- Falconer, William. *A Dissertation on the Influence of the Passions Upon Disorders of the Body*. 1788. *Eighteenth Century Collections Online*. Gale Group. Web. 17 Nov. 2010.
- Fullmer, June Z. *Young Humphry Davy: The Making of an Experimental Chemist*. Philadelphia: American Philosophical Society, 2000. Print.
- Hannan, Barbara. “To Choose or Not to Choose: Locke and Lowe on the Nature and Powers of the Self.” *Philosophy* 86.1 (2011): 59–73. Print.
- Hartley, David. *Observations on Man, His Frame, His Duty, and His Expectations*. Vol. 1. 1749. *Eighteenth Century Collections Online*. Gale Group. Web. 6 Nov. 2008.
- Holmes, Richard. *The Age of Wonder: How the Romantic Generation Discovered the Beauty and Terror of Science*. London: Harper P, 2008. Print.
- Jackson, Noel. *Science and Sensation in Romantic Poetry*. Cambridge: Cambridge UP, 2008. Print.
- Jacyna, L.S. “Immanence or Transcendence: Theories of Life and Organization in Britain, 1790–1835.” *Isis* 74.3 (1983): 310–29. Print.
- Jay, Mike. “The Atmosphere of Heaven: The 1799 Nitrous Oxide Researches Reconsidered.” *Notes and Records of the Royal Society* 63 (2009): 297–309. *RSNR. RoyalSocietyPublishing.org*. Web. 29 May 2010.
- Knight, David. *Humphry Davy: Science & Power*. Cambridge: Cambridge UP, 1998. Print.

- Lefebure, Molly. "Consolations in Opium: The Expanding Universe of Coleridge, Humphrey Davy and 'The Recluse'." *Wordsworth Circle* 17.2 (1986): 51–60. *Chadwyck PAO*. Web. 26 Jun. 2010.
- . "Humphry Davy: Philosophic Alchemist." *The Coleridge Connection: Essays for Thomas McFarland*. Ed. Richard Gravil and Molly Lefebure. London: Macmillan P, 1990. 83–110. Print.
- Levere, Trevor H. *Poetry Realized in Nature: Samuel Taylor Coleridge and Early Nineteenth-Century Science*. Cambridge: Cambridge UP, 1981. Print.
- Levinson, Marjorie. *Wordsworth's Great Period Poems*. Cambridge: Cambridge UP, 1986. Print.
- Locke, John. *An Essay Concerning Human Understanding*. 1700. New York: Prometheus Books, 1995. Print.
- Matlak, Richard. "Wordsworth's Reading of *Zoonomia* in Early Spring." *Wordsworth Circle* 21.2 (1990): 76–81. *Chadwyck PAO Complete*. Web. 12 Jun. 2009.
- McGann, Jerome. *The Romantic Ideology: A Critical Investigation*. Chicago: U of Chicago P, 1983. Print.
- Miall, David S. "Wordsworth and *The Prelude*: The Problematics of Feeling." *Studies in Romanticism* 31.2 (1992): 233–53. *JSTOR*. Web. 2 Jul. 2011.
- Piper, H.W. *The Active Universe*. London: Athlone P, 1962. Print.
- Priestley, Joseph. *Disquisitions Relating to Matter and Spirit*. 1777. Whitefish: Kessinger Publishing, 2005. Print.
- . *Hartley's Theory of the Human Mind on the Principle of the Association of Ideas, with Essays Relating to the Subject of it*. 1775. *Eighteenth Century Collections Online*. Gale Group. Web. 6 Nov. 2008.
- Richardson, Alan. *British Romanticism and the Science of the Mind*. New York: Cambridge UP, 2001. Print.
- . *The Neural Sublime: Cognitive Theories and Romantic Texts*. Baltimore: Johns Hopkins UP, 2010. Print.
- Robertson, Lisa Ann. "'Sensible' Slavery: Pleasure, Pain, and the Body in Matthew Lewis's *Journal of a West India Proprietor*." *Prose Studies* 29.2 (2007): 220–37. Print.
- Ruston, Sharon. *Creating Romanticism: Case Studies in the Literature, Science and Medicine of the 1790s*. New York: Palgrave Macmillan, 2013. Print.
- Sandy, Mark. *Romanticism, Memory, and Mourning*. Farnham: Ashgate Publishing, 2013. Print.
- Sandywell, Barry. *Dictionary of Visual Discourse: A Dialectical Lexicon of Terms*. Farnham: Ashgate, 2009. Print.
- Sarafianos, Aris. "Pain, Labor, and the Sublime: Medical Gymnastics and Burke's Aesthetics." *Representations* 91.1 (2005): 58–83. *JSTOR*. Web. 6 Jul. 2013.
- Schofield, Robert. "Joseph Priestley on Sensation and Perception." *Studies in Perception: Interrelations in the History of Philosophy and Science*. Ed. Peter K. Machamer and Robert G. Turnbull. Columbus: Ohio State UP, 1978. 336–54. Print.
- Sharrock, Roger. "The Chemist and the Poet: Sir Humphry Davy and the Preface to *Lyrical Ballads*." *Notes and Records of the Royal Society of London* 17.1 (1962): 57–76. *JSTOR*. Web. 5 Oct. 2009.
- Thomas, Keith G. *Wordsworth and Philosophy: Empiricism and Transcendentalism in the Poetry*. Ann Arbor: UMI Research P, 1989. Print.
- Todd, Janet. *Sensibility: An Introduction*. London: Methuan, 1986. Print.
- Vila, Anne C. *Enlightenment and Pathology*. Baltimore: Johns Hopkins UP, 1998. Print.
- Wedgwood, Thomas. MS Notebooks E40-28457. Wedgwood Museum. Barlaston, Stoke-On-Trent, Staffordshire. MS.
- Whitaker, Harry A., C.U.M. Smith, and Stanley Finger. *Brain, Mind, and Medicine: Eighteenth-Century Neuroscience*. New York: Springer, 2007. MyiLibrary. Web. 23 Feb. 2010.
- Wordsworth, Jonathan. "Wordsworth's 'Borderers'." *English Romantic Poets: Modern Essays in Criticism*. 2nd ed. Ed. M.H. Abrams. New York: Oxford UP, 1975. 170–87. Print.
- Wordsworth, William. "Lines Written a Few Miles Above Tintern Abbey, on Revisiting the Banks of the Wye During a Tour, July 13, 1798." *Lyrical Ballads: The Text of the 1798 Edition With the Additional 1800 Poems and the Prefaces*. Ed. R.L. Brett and A.R. Jones. London: Methuen & Co, 1963. 113–18. Print.
- Yolton, John W. *Thinking Matter: Materialism in Eighteenth-Century Britain*. Minneapolis: U of Minnesota P, 1983. Print.