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Geometry, the Body, and Affect in Wordsworth's *The Ruined Cottage*[1]

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Under the heading, "Logic or Geometry Necessary for a Poet," Robert Aris Willmott transcribed Samuel Taylor Coleridge's thoughts on the subject as delivered at Cambridge in 1833. Published anonymously two years following the poet's death, Coleridge claimed that, "Geometry is a means to an end—a series of steps to a temple; many, I fear, there are who never get beyond the steps."[2] Beyond the steps for Coleridge lies logic, which he considered to be "infinitely more useful than geometry." Compared to logic, Coleridge disparages mathematics elsewhere.[3] But in his lecture at Cambridge he recognizes that geometry is nevertheless an integral part of the poet's pursuit of logic. Marjorie Hope Nicholson has already demonstrated the high regard for geometry held by early eighteenth century poets like Young, Thomson, and Henry Brooke.[4] But how necessary was this science for Coleridge's contemporaries, and for what reasons?

Among the Romantic poets, geometry's presence is depicted most prominently in the works of Coleridge's friend and collaborator, William Wordsworth. Schooled in the ancient Greek geometry of Euclid's *Elements* at Hawkshead and tested on the first six books at Cambridge, Wordsworth returns to this text at Racedown in 1797, around the same time he begins the foundational work of his career, *The Ruined Cottage*.[5] The poem features a young poet who, with a geometer's eye,

1 Earlier versions of this paper were presented at the 2012 International Conference on Romanticism at Arizona State University and the annual meeting of the Society for Literature, Science, and the Arts at the University of Notre Dame in 2013. I am grateful to Chris Washington for his helpful comments at ICR.

2 "Robert Aris Willmott's Report of Table-Talk, 1833," in *The Collected Works of Samuel Taylor Coleridge*, ed. Carl Woodring, 16 vols (Princeton: Princeton University Press, 1990), 454–6, vol. 14.2.

3 "Editor's Introduction," *The Collected Works*, ed. J. R. de J. Jackson, lxi, vol. 13.

4 Thus Nicholson, in *Newton Demands the Muse: Newton's* Opticks *and the Eighteenth Century Poets* (Princeton: Princeton University Press, 1946), 14–19, undermines the claim put forth by Henry Pemberton in *A View of Sir Isaac Newton's Philosophy* (1728) that poets have no care for the specifics of geometrical learning.

5 On Wordsworth's Euclidean upbringing, see Charlotte Kipling, "A Note on Wordsworth's Mathematical Education," *The Charles Lamb Bulletin*, 59 (1987): 96–102; Ben Ross Schneider, *Wordsworth's Cambridge Education* (Cambridge: Cambridge University Press, 1957); and Mary Moorman, *William Wordsworth: The Early Years, 1770–1803* (Oxford: Clarendon Press, 1957), 97–8.

spots a dilapidated cottage standing "midway in the level."[6] There he meets an old peddler who narrates the story of the cottage's last inhabitant, Margaret. Following a financial crisis, largely on account of England's war efforts, Margaret's husband Robert joins the military leaving his wife to tend to the cottage and run a small textile operation. The poem's second half charts Margaret's ceaseless work, her declining bodily health, and her death before returning to the exchange between poet and peddler. In 1798, Wordsworth begins an extended biography of the peddler, making geometry's importance explicit for its lessons in universal validity and logical method of discovery, which jointly serve as a propaedeutic to identifying with others, namely Margaret, on an affective level.

In the past, the importance of geometry in Wordsworth scholarship has been limited largely to the "Arab Dream" sequence in book five of *The Prelude*, wherein poetry and geometry are examined side by side, and with few exceptions critics have read the former as superior to the latter.[7] More recently, attention has shifted towards the disruption of geometry's rigid rules, pinpointing in Wordsworth's poetry a tendency towards future geometries (non-Euclidean), an effort to which this essay contributes.[8] But my main purpose is to outline exactly what geometry imparts to the poet, thereby demonstrating a need to disrupt its rules in the first place. A more comprehensive understanding must begin with the multiple approaches to geometry in circulation during the eighteenth century. Hence I have organized this essay according to the three-tier progression of one's geometrical education as represented in Wordsworth's early readings (Rousseau and Berkeley) and depicted in *The Ruined Cottage* story: practical, speculative, and logical.[9] The order is vertical and hierarchical

6 *The Ruined Cottage and The Pedlar* (*RC&P*), ed. James Butler (Ithaca: Cornell University Press, 1979), B 27. Further references to the poem will be cited according to manuscript and line number.

7 Rather than poetry on the one hand and geometry on the other, Theresa Kelley, in "Spirit and Geometric Form: The Stone and the Shell in Wordsworth's Arab Dream," *SEL* 22 (1982): 563–82, sees the stone as representing an outmoded geometry and the shell as a metaphor for an unfixed, future science combining knowledge and power. While Ernest Bernhardt-Kabisch, in "The Stone and the Shell: Wordsworth, Cataclysm, and the Myth of Glaucus," *Studies in Romanticism* 23.4 (1984): 455–90, also sees the stone and shell as bound to one another, for him this marriage is only a Romantic hope, and instead the "Arab Dream" actually dramatizes "the anxieties of an excessively apocalyptic mind" (490). For other interpretations see Mary Jacobus, *Romanticism, Writing, and Sexual Difference: Essays on* The Prelude (Oxford: Clarendon Press, 1989), 118–25; Jonathan Wordsworth, *William Wordsworth: The Borders of Vision* (Oxford: Clarendon Press, 1982), 194–6; and Geoffrey Hartman, *Wordsworth's Poetry, 1787–1814* (New Haven: Yale University Press, 1964), 225–33.

8 Michael Simpson, in "Strange Fits of Parallax: Wordsworth's Geometric Excursions," *The Wordsworth Circle* 34.1 (2003): 19–24, investigates Wordsworth's post-revolutionary geometry which affords moral laws the communicability of geometrical figures while maintaining a respect for the integrity of all parties concerned (author and reader). Looking in the other direction, Ron Broglio, in *Technologies of the Picturesque: British Art, Poetry, and Instruments, 1750–1830* (Lewisburg: Bucknell University Press, 2008), 73, stresses a phase "prior to mental abstraction" in Wordsworth, an abstraction encouraged by geometry's tendency to reduce three-dimensional objects to two-dimensional diagrams.

9 My selections have been guided by Duncan Wu's invaluable, *Wordsworth's Reading, 1770–1799* (Cambridge: Cambridge University Press, 1993). While Spinoza is absent from Wu's text (and my

in terms of one's education, as well as in terms of a Platonic ascent towards reason—which for Wordsworth is ultimately passion: "highest reason in a soul sublime."[10] However, Wordsworth avoids a strictly vertical tendency towards a determinate end, as found in Enlightenment works such as Akenside's *The Pleasures of Imagination*, and instead adds steps to his logical method that recall the pupil/poet from speculative ruminations.[11]

Still, as a consequence of geometry's general tendency to advance in the eighteenth and early nineteenth century from the basest level (practical/extensive) to the highest level (logical/rational), it is inevitable that this trajectory coincides with a trend towards what Mark Paterson calls the "forgetting of touch."[12] In its earliest forms, geometry relies on the body—especially the hand and arm—as a standard of measure.[13] But the unaided hand in mathematical practice loses its priority once taboos surrounding geometrical tools begin to fade in the seventeenth century.[14] As tools standardize geometrical diagrams, two-dimensional representations of space become the norm for communicating spatial information of distance and size, thereby subordinating the hand's touch to the eye's vision (Paterson 68). While Wordsworth follows this trajectory and privileges the visual sense over the tactile sense, his real antagonist is the extensive system of measurement that humans embody. The embodiment of practical geometry has the power to block the creative spirit's connection to the hands, cutting the limbs off from an affective traffic between feeling entities. Thus Wordsworth's representations of vision may contribute to a general tendency towards privileging sight in the West, but his position must be understood as a response to the hands' declining sensitivity in correlation with the proliferation of technical instruments and systems of measurement.[15]

essay), Marjorie Levinson, in "A Motion and a Spirit: Romancing Spinoza," *Studies in Romanticism* 46.4 (2007), 367–408, makes a strong case for how Wordsworthian keywords (including, animal movements, passions, feelings, and love) "have a hollow ring when played in an empiricist, a Cartesian, as well as in a Marxist-materialist register, [but] sing out when set under the sign of Spinoza" (406), and under this sign, feelings can be read as analogous to geometrical figures (369). The present essay takes an empiricist approach, but as I expand the analysis of Wordsworth's engagement with speculative geometry, the role of Spinoza will require greater attention.

10 *The Prelude, 1799, 1805, 1850*, ed. Jonathan Wordsworth, M. H. Abrams, and Stephen Gill (New York: Norton, 1979), 5.40. All references are to the 1805 edition.

11 Thus, with respect to one's education, this paper is in agreement with critics who stress Wordsworth's avoidance of synthesized ends, as in Hartman, *Wordsworth's Poetry*, 300, and David Collings, *Wordsworthian Errancies: The Poetics of Cultural Dismemberment* (Baltimore: Johns Hopkins UP, 1994), 69.

12 *The Senses of Touch: Haptics, Affects, and Technologies* (Oxford: Berg, 2007), 59–78.

13 On the hand as a standard of measurement see Paterson, 72–4, and Katherine Rowe, *Dead Hands: Fictions of Agency, Renaissance to Modern* (Stanford: Stanford University Press, 1999), 24–51, esp. 46. Other parts of the body have been used as standards as well. See Michel Serres, *Variations on the Body*, tr. Randolph Burks (Minnesota: Univocal, 2011), 140–2.

14 On the affirmation of "instrumental constructions" see the brilliant work by David Lachterman, *The Ethics of Geometry: A Genealogy of Modernity* (New York: Routledge, 1989), 70–6, 161–74.

15 A further objection to Wordsworth privileging the eye is vision's association with a gendered form of reason. Jacqueline Labbe, in *Romantic Visualities: Landscape, Gender and Romanticism* (Basingstoke:

In the context of Wordsworth's poetry, a study of geometry is important because it largely informs his "science of feelings," as outlined in a note to "The Thorn" from the *Lyrical Ballads* (1800).[16] For Wordsworth, "the science of feelings" is another name for poetry, but it is also a method for identifying with other people. In a science of feelings one measures signs in the "balance of feeling," meaning that an observer's passions identify (to varying degrees of intensity) with the affective activity of the signs observed, namely, the words of the poet but also the "signs in nature."[17] In which case, the science of feelings is an intensive form of measurement, where a thing is judged based on the level of feeling it activates for an observer.[18] Only recently have critics situated Wordsworth's science of feelings within the physiology and cognitive science of his day (Richardson), concluding that this science ultimately investigates the "various effects of compulsory movement" (Goodman).[19] While these critics have made it clear that the "science of feelings" overlaps with the body, the mind, and medicine, in this essay I illustrate how a geometrical education facilitates the cognitive training integrated into a somatic and affective engagement with other things and people, thereby demonstrating a tendency in Wordsworth to view the passions and the understanding as ineluctably bound together.

Borrowing from geometry its lessons in universals and logical method, the observer learns how arbitrary signs refer to "timeless" affects, and how one ought to arrive at these feelings by way of a necessary sequence of operations. The Romantic poet arrives at a universal and communicable feeling in much the same way that

Macmillan, 1998), 1–4, 47, clearly demonstrates through her investigation of eighteenth-century aesthetics that reason is considered just out of reach for women and children. While for Wordsworth passion is ultimately seated at the apex of reason, that positioning does not protect him from such a critique. Rather, it only suggests that passion is the least accessible state of the soul.

16 See "Notes," *Lyrical Ballads*, ed. James Butler and Karen Green (Ithaca: Cornell University Press, 1992), 350–2, at 351.

17 I am aware of the critical discourse regarding "nature," and how this term obscures our understanding of individual entities, promoting instead an understanding of things as exclusively "for" humans by ignoring material things that do not fit into the abstract concept of nature. I maintain this usage for the sake of its historical currency. See, most recently, Timothy Morton, *Hyperobjects: Philosophy and Ecology After the End of the World* (Minneapolis: University of Minnesota Press, 2013), 72–3, 99–102.

18 Manuel De Landa, in *Intensive Science and Virtual Philosophy* (2002; London: Bloomsbury 2013), 1–48, at 12, shows how an intensive science provides an understanding of beings with respect to their non-extensive qualities, and how these intensive qualities might account for the way things change. He uses for an illustration of intensive qualities a pot of heated water, wherein the same water embodies more than one temperature at different regions, expressed in different ways (i.e. the boiling bubbles).

19 Alan Richardson, in *British Romanticism and the Science of the Mind* (Cambridge: Cambridge University Press, 2001), 66–92, at 90–1, claims that Wordsworth's emphasis on emotion sets him apart from his contemporaries as well as modern day cognitive theorists. Kevis Goodman, in "'Uncertain Disease': Nostalgia, Pathologies of Motion, Practices of Reading," *Studies in Romanticism* 49.2 (2010): 197–227, at 222, brilliantly reads "The Thorn," and demonstrates how nostalgia is the affective equivalent to tautology. The note to the same poem becomes a prescription for the reader, justifying the use of repetitive language in the poem but also encouraging the reader to embrace the second look that a tautology requires.

a mathematician arrives at an apodictic geometrical construction: through the succession of steps in a necessary order. The twofold consequence is that Wordsworth extends to feelings the claim put forth by John Locke that geometry and morals are in an analogical relationship;[20] and furthermore, he recognizes the need for additional steps in the dominant logical method of his age, which will ultimately lead to his more provocative interventions in geometry capturing the attention of critics today.

Extensive Hands and Practical Geometry

Whereas hands in Gothic literature during the eighteenth and nineteenth centuries are severed from the body and are supernaturally strong, in *The Ruined Cottage* Margaret's limbs belong to a pattern of hands that remain attached to the body but are cut off from the volition normally associated with a spirit or soul.[21] Additionally, these hands work with ceaseless activity despite their exhaustion. This formulation begins in "The Vale of Esthwaite" when Wordsworth depicts a specter with a "feeble arm,"[22] but it quickly transforms when, following *An Evening Walk*, the only weak arms to appear in his poetry belong to human characters, usually war-widows, vagrants, and veterans, but also poets and picturesque tourists.[23] Because he initially associates a weak arm with a supernatural entity and then transfers this weak limb to his human characters, Wordsworth has in mind the powerless spirit "within" humans.[24] Similar to the vagrants and war-widows in *An Evening Walk* (1793) and *Adventures on Salisbury Plain* (1795), whose arms have become "numb" and "idle," Margaret's hands are described as "sleepy," indicating her negligence but also her waning spirit.[25] Despite the decline in energy, these fatigued limbs paradoxically continue to work. In the adaptation of *The Ruined Cottage* for book one of *The Excursion*, Margaret converses with the peddler while setting the table for dinner, "interrupting not the work / Which gave employment to her listless hands."[26] After a

20 *An Essay Concerning Human Understanding*, ed. Peter H. Nidditch (Oxford: Clarendon, 1975), 4.4.565–7. Berkeley contests this view in his "Philosophical Commentaries," in *The Works of George Berkeley, Bishop of Cloyne*, ed. A. A. Luce and T. E. Jessop, 9 vols (London: Thomas Nelson, 1948), B 163, vol. 1.

21 See Rowe for the various characteristics of severed hands in English literature (50–1). In this section my focus is on Rowe's primary criterion, the displacement of human agency.

22 "The Vale of Esthwaite," *Early Poems and Fragments, 1785–1797*, ed. Carol Landon and Jared Curtis (Ithaca: Cornell University Press, 1997), 226.

23 After *An Evening Walk*, Wordsworth avoids Gothic allegories with their "cold wet" hands, an understandable departure given the negative reviews of his more figurative, early works. See Thomas Holcroft's reviews of *Descriptive Sketches* and *An Evening Walk* in Donald H. Reiman, *The Romantics Reviewed: Contemporary Reviews of British Romantic Writers* (New York: Garland Publishing, 1972), 704–5, vol. 2.

24 The specter's weak arm signifies the ancient poetic powers in decline, or in Geoffrey Hartman's idiom, the last vestiges of mythology and Romance. See "False Themes and Gentle Minds," *Beyond Formalism* (New Haven: Yale University Press, 1970), 283–97.

25 *An Evening Walk*, ed. James Averill (Ithaca: Cornell University Press, 1984), 251; *The Salisbury Plain Poems*, ed. Stephen Gill (Ithaca: Cornell University Press, 1975), 540; *RC&P*, B 440.

26 *The Excursion*, ed. James Butler and Michael Jaye (Ithaca: Cornell University Press, 2007),

typically long workday, Margaret's exhausted limbs cannot help but continue in their motions. If the spirit or soul is weak, how might we account for the hands' endless motions, and what are the consequences of this invisible force?

Rousseau's *Emile* provides our best clue. His work on an ideal education includes an alternative path wherein practical geometry leads to automatic yet enfeebled limbs. The problem for Rousseau is that practical geometry, its tools, and artisan trades promote extension, repetition, and identity (of signs) while restricting feelings, invention, and difference. Rousseau criticizes the "whole of elementary geometry" because it only requires that the student copy "exact figures, combine them, [and] place them on one another."[27] Furthermore, the geometry textbook encourages the pupil to move "from observation to observation," the repetition of which suggests the patterned movements of Cartesian animals. Thus geometry for Rousseau encourages the pupil to follow the textbook's step-by-step instructions with animal-like attention for the sake of reproducing identical figures.

These criticisms regarding the reproduction of figures clarify Rousseau's distaste for geometrical tools. Because instruments ultimately provide pre-packaged solutions to geometrical problems before the pupil has time to discover the problems according to his own faculties, "The ruler and the compass will be kept under lock and key" (146). Such limitations in learning are not restricted to geometry and its instruments, but on account of their narrow range of actions, Rousseau also discourages his pupil from pursuing particular artisan trades. Weaving, as it is singled out, demands that hands do "but the same work," and it "almost" transforms artisans into "automatons," before it ultimately becomes "a case of one machine guiding another" (201). Thus, when Emile exclaims: "One would believe they are afraid that their arms and their fingers might be of some use, so many instruments do they invent to do without them," he means to say that the hand has been reduced from the Aristotelian "tool of tools" to a tool-bearing mechanism (188).

Once the tool disciplines the hand to embody the mathematical principles of the artisan's knowledge or skillset (techne), it is these principles that guide the hand and not the spirit or soul.[28] As long as the pupil avoids handheld tools, the faculties will grow strong and self-sufficient. But if tools and copying proofs govern geometrical learning, the child will be restricted in the future to artisan trades that demand algorithmic actions in order to produce nearly identical signs with regularity. Rousseau's claims are significant because practical geometry not only privileges

1.792–5.

27 *Emile, or On Education*, tr. Allan Bloom (New York: Basic, 1979), 145.

28 Henry Staten, in "The Wrong Turn of Aesthetics," *Theory After Theory*, ed. Jane Elliot and Derek Attridge (New York: Routledge, 2011), 223–36, at 225, explains that "techne," as it appears in Plato, means "neither art objects nor some higher power of art creation but the systematic, culturally acquired knowledge by means of which human beings organize their activity towards the achieving of an end." On techne versus tool-use see, "The Origin of the Work of Art in Material Practice," *NLH* 43 (2012): 43–64, at 56 and n. 31. I am grateful to Henry Staten for a generous exchange of emails regarding the subject of techne.

extension and promotes algorithmic and automatic behavior, but it ultimately discourages the pupil's love for other beings.

Rousseau's program applies to Wordsworth's poem insofar as Margaret is a weaver and thus adheres to a mathematical techne. While she seems to differ from Emile in that she has already learned to love others, it remains an immature love, a love for the extensive particular. Suffering in terms similar to Margaret appears throughout Wordsworth's poetry, and the pain is often mitigated by an immersion in the speculative arts. But with no such outlet, Margaret is a case in practical geometry's failure to provide comfort following loss; in fact, the practical arts only exacerbate the symptoms.

For Wordsworth's Margaret, textile tools enforce the geometrical embodiment of her artisan trade. Numerous interpretations have been offered to explain the relationship between Margaret, her tools, and the invisible forces that guide her handiwork, including masochistic pleasure (Collings), the work of mourning (Fosso), and new economic systems (Liu).[29] But following Rousseau, Wordsworth points to an association between the body, tools, and practical geometry. The mathematical principles of practical arts only fulfill their intended task insofar as tools discipline the hands according to a uniform pattern. Such patterns discourage deviation from the same, and thus Margaret paces "to and fro […] through many a day" with a belt for spinning flax around her waist (B 495). Her belt guides her like a ruler and compass, requiring her to conform to a set of steps—literally—that must necessarily follow a particular and unalterable order, guided by the mathematical hand made manifest in the geometrical "grey line," which Margaret carves in the grass (B 494).[30] Wrapped in her equipment, embodying her techne, and adhering to an algorithmic pattern, the spirit of geometry's malevolent twin displaces Margaret's agency.

In other words, the spirit or soul's passions are blocked. Wordsworth makes this point explicit following Margaret's story in *The Excursion*, when the embittered Solitary actually glorifies artisan tools precisely because they disengage the laborer's feelings:

> [Praise] to the sturdy plough,
> And patient spade, and the shepherd's simple crook,
> And ponderous loom—resounding while it holds
> Body and mind in one captivity;
> And let the light mechanic tool be hailed

29 *Wordsworthian Errancies*, 85. Kurt Fosso, *Buried Communities: Wordsworth and the Bonds of Mourning* (New York: SUNY Press, 2004), 110. Alan Liu, *Wordsworth, the Sense of History* (Stanford: Stanford University Press, 1989), 319, 341.

30 On the mathematics of textile production see Carrie Brezine, "Algorithms and Automation: The Production of Mathematics and Textiles," *The Oxford Handbook of Mathematics*, ed. Eleanor Robson and Jacqueline Stedall (Oxford: Oxford University Press, 2009), 468–92.

> With honour; which, encasing, by the power
> Of long companionship, the Artist's hand,
> Cuts off that hand, with all its world of nerves,
> From a too busy commerce with the heart! (5.603–11)

As Noel Jackson explains, tool-use for the Solitary reduces laborers to a "state of mere physical being."[31] Tools narrow the attention of the user ("holds / Body and mind in one captivity"), and after "long companionship" with these artisan instruments, the hand is metaphorically cut off from an affective circuitry ("commerce with the heart"). If the soul encounters things according to feelings, the Solitary explains not only how other entities have been foreclosed to the feeling spirit, he also suggests that the engine of the soul powering the hand has been displaced by the power of the techne disciplined by the tools. Where the hand once functioned as a mediator for the spirit, it now serves as a vessel for an extensive techne without any recourse to affect.

But in a number of instances Margaret escapes from a strictly extensive domain and very clearly exhibits passions. In contrast to her pacing, Margaret also has a tendency to wander through the landscape without a destination or a sense of time's duration. Mary Favret characterizes Margaret's waywardness as the "vagrancy of affect."[32] She agrees that in Margaret we see an epistemological split between "sensible feeling and comprehensible pattern." Whereas Favret stresses the prominence of Margaret's affective side, pointing to the war-widow's lack of any organizational mechanism, I have presented Margaret as adhering to strict cognitive patterns without feeling. How do we account for the disjunction between affective and cognitive domains demonstrated in both readings but with conflicting emphases?

While Margaret appears to have feelings on the one hand and rigid patterns of thought on the other, I suggest that both are extensively determined. Margaret ruminates over the lost affective bond once shared with her husband. She apprehends this emotion, but her passions are less abstract, unconscious, and intensive and more particular, conscious, and extensive. She transforms an affect into an image, a process reinforced by the fact that practical geometry only works towards the production of extensive diagrams (e.g. Margaret's grey line). First Margaret refers to her husband retrospectively by way of a synecdoche: it is his "hand" that would repair the cottage, checker the roof with hay, and leave a purse of gold (B 513, 324). Then she projects her images or "shapes" in the "distance" (B 492–3). The problem is that mental images cannot appear in the "distance." Mental images do not adhere to three-dimensional space, and thus Margaret's love is projected, albeit mistakenly, as an extensive figure. Her image is no less real than Robert's actual extensive hand (both are signs). But only Robert's actual hand connects to an affective source external to Margaret.

31 Jackson charts in greater detail the relationship of the nervous system and the emotions, in *Science and Sensation in Romantic Poetry* (Cambridge: Cambridge University Press, 2008), 140–5.

32 *War at a Distance: Romanticism and the Making of Modern Wartime* (Princeton: Princeton University Press, 2010), 27.

Ultimately, Margaret's weak limbs provide some insight into the poet and his brand of geometry. At the opening of *The Ruined Cottage*, the poet is characterized by his "weak arm" (B 22). Does he also embody a geometrical techne? Perhaps, but the poet's geometry is closer to Rousseau's privileged mathematics than an artisan techne. Both forms of geometry are embodied and extensive, but the artisan relies heavily on external tools.[33] A closer comparison to the poet's weak arm is the dreaming man's languid limbs appearing at the poem's opening lines.[34] The dreaming man stares at the lattice work of a tree's branches through which the sunlight shines. The sun also shines through the clouds, projecting shapes on the nearby downs, "Determined and unmoved" (B 7). These still shapes occupying the dreaming man's attention suggest an association with the fixity of geometrical diagrams, and thus Wordsworth constructs a pattern of gentlemen poets schooled in practical geometry, but not of the hand and tool. Rather, their geometrical shapes are visual. They project them onto landscapes, awed by their illuminated appearances, and sketch them into their notebooks. They may not dirty their hands, but their eyes dogmatically adhere to an extensive form of geometry, now blocking both hands and eyes from the feelings of others.

Intensive Eyes and Speculative Geometry

In *The Pedlar* (MS. E) of 1804, which features an extended biography of Wordsworth's wandering sage, the poem makes clear how a geometrical education also determines vision, the mind's eye included.[35] Like the other characters in the poem, the peddler learns an extensive form of practical geometry, but he advances to a non-extensive form of speculative geometry, wherein he considers the figure's universal validity rather than isolated cases of measurement. Because speculative geometry is removed from an extensive plane, it frees vision from tactile interference, and thus the peddler tells the poet that he sees around him "Things which you cannot see" (B 130). By way of this "unmediated" vision, the peddler actually sees signs that point to feelings. In order to account for the connection between geometry, signs, and feelings Wordsworth relies on George Berkeley's concept of a "visual language."

Throughout the eighteenth century, instances of the visual language appear in Mark Akenside's *The Pleasures of Imagination* (1745), Anna Laetitia Barbauld's "Address to the Deity" (1773), Coleridge's *The Destiny of Nations: A Vision* (1817), and the latter's contributions to Robert Southey's *Joan of Arc* (1796).[36] But the concept

33 See Rousseau, 171.

34 The weak limbs of the poet and dreaming man are qualified further by the picturesque tourist's arms, which the Priest in "The Brothers" characterizes as being on "perpetual holiday" (104), in *Lyrical Ballads*. Alan Liu provides the most thorough analysis of the dreaming man that I have seen, in *Wordsworth* at 316.

35 Butler locates the extension of the peddler's biography (esp. MS. E, 24–374) at the "second stage" of composition from January to March 1798, in "Preface," *RC&P*, x–xi.

36 Jonathan Wordsworth, in "Introduction," to *The Pleasures of Imagination* (Otley: Woodstock Books, 2000), n.p, charts numerous instances of the visual language and sees Akenside as the primary

is fully developed in the philosophy of George Berkeley, beginning with *An Essay Towards a New Theory of Vision* (1709).[37] The connection to Berkeley is important for a discussion of Wordsworth and geometry, in part, because the concept of the visual language offers an alternative theory to the dominance of geometrical optics espoused by Descartes and his followers.[38] Descartes believed that people see objects according to geometrical points and lines and practice a "natural geometry" whereby the distance of an object is calculated immediately by the mind. While natural geometry may sound appealing for Romantic poets and scholars, Berkeley insists that only schooled and practiced geometers possess such a specialized power.[39] More importantly, the belief that geometers see according to lines presupposes that the eyes see according to extension. But vision does not register the quality of extension. Visual information is only apprehended as extensive on account of being mediated by haptic sense organs like the hands, in addition to custom and experience.[40] In fact, the eyes only register light and shadow, intensive qualities of a material world. These shades of difference are signs found in nature and comprise Berkeley's visual language. Ultimately the signs refer to the activity of spirits, souls, or God, the only active things in Berkeley's universe.[41]

In order to access this language, Berkeley must first separate information acquired by the hand and information acquired by the eye because the hand's tactile sense mediates and thus interferes with the eye's non-extensive sight. Berkeley thereby separates extensive from non-extensive qualities, as well as the sciences that grapple with extensive and non-extensive things: Whereas practical geometry deals with tangible figures, speculative geometry deals with visible figures. Visible figures are "the same use in geometry that words are," with one exception: While words are "variable and uncertain, depending on the arbitrary appointment of men, the former

influence on Wordsworth's understanding regarding the book of nature. But it is Berkeley who offers the visual language as an alternative to practical geometry's embodiment by way of habit and experience. I see Wordsworth as making the same connection.

37 It is questionable whether or not Wordsworth read this particular work of Berkeley's. While Ellen Douglass Leyburn, in "Berkeleian Elements in Wordsworth's Thought," *The Journal of English and German Philology* 47.1 (1948): 14–28, demonstrates the presence of Berkeleian themes throughout Wordsworth's poetry from 1797–1814, only the later *Alciphron: or the Minute Philosopher* was part of the Mount Rydal library. Still, *Alciphron* contains many of Berkeley's earlier ideas, including a more elaborate demonstration of the visual language.

38 For an extended discussion of this debate see Margaret Atherton, *Berkeley's Revolution in Vision* (Ithaca: Cornell University Press, 1990), 16–52.

39 "New Theory of Vision," *The Works of George Berkeley, Bishop of Cloyne*, 208, vol. 1.

40 If Wordsworth never read the *New Theory of Vision*, he may have been made familiar with this idea through Coleridge, who was most certainly aware of one sense mediating another sense. Berkeley's *New Theory of Vision* is a likely source, "whose work Coleridge was reading in March 1796," or possibly Andrew Baxter's summary of Berkeley from the *Enquiry*. See Kathleen Coburn, ed. *The Notebooks of Samuel Taylor Coleridge*, 3 vols (New York: Pantheon, 1957), n. 248, vol. 1 Notes.

41 Thus Berkeley rejects the dominant mechanical philosophy of his day, which explains change in terms of cause and effect. Rather Berkeley sees the universe as organized "*linguistically*." See John Russell Roberts, *A Metaphysics for the Mob: The Philosophy of George Berkeley* (Oxford: Oxford University Press, 2007), xx, 65–7.

[are] fixed and immutably the same in all times and places" (232–3). When people imagine the word "triangle," the word varies from country to country; when people visualize the shape of a triangle, everyone sees three sides and three angles totaling one hundred eighty degrees (even though they see particular triangles). The universality of this figure is an important lesson on the way to learning the "visual language" because ultimately the signs of nature must demonstrate some regularity in order to convey something meaningful to observers: for the sake of recognition, signs must be repeatable. But Berkeley's main object in his discussion of geometry is to treat it as the science of extensive figures (233–4), and thus regardless of geometry's lesson in universal validity, it cannot adequately serve as the science of signs in nature.

But on his way to relegating geometry to an extensive science, Berkeley promotes a science of feelings, unwittingly to be sure. When he compares words and speculative geometry's visible figures, referring to them in similar terms, Berkeley also writes throughout the *New Theory of Vision* of the human blush (173, 176, 195). The blush in no way resembles the feeling of shame to which it refers and therefore it is much like an arbitrary word and its signified meaning. Berkeley also insists that the blush and the feeling it expresses are necessarily bound, assuming (naïvely) that a blush in every instance always refers to "shame." Such a necessary connection to its referent is a characteristic of geometrical figures, and incidentally the other criterion for signs in nature, as explained in Berkeley's more popular work, *Alciphron, or the Minute Philosopher*.[42] Berkeley's example of the blush thus embodies the characteristics of both words and geometrical figures, lacking any resemblance to its signified meaning yet indicating necessarily a universal referent—and it is repeatable. While Berkeley's essay suggests the connection between mathematical and affective domains, Wordsworth makes the link more purposeful at the end of *The Pedlar*'s first book: "Age had compress'd the rose upon [the peddler's] cheek / Into a narrower circle of deep red" (E 367–8). Geometrical figure and physical expression come together in one fixed sign, to the point where the peddler will be recognized for his gentleness to the same extent that a circle is recognized as a circle.

Does Wordsworth develop further the connection between geometrical and affective signs? To answer this question I will now chart the sequence of the young peddler's education, demonstrating that speculative geometry is a necessary stage at which point the young pupil learns the concept of universal validity.[43] Without such a stage in the peddler's education, it would remain unclear whether or not humans could hold a thought or feeling in common, from geometrical concepts to emotions. Speculative geometry teaches the pupil that non-extensive things, like feelings, are

42 According to Berkeley's Crito, in *The Works of George Berkeley*, 4.14.159–60, vol. 4, "optic language hath a necessary connection with knowledge, wisdom, and goodness. It is equivalent to a constant creation, betokening an immediate act of power and providence."

43 On Wordsworth's pedagogy see Richard Gravil, "Knowledge Not Purchased With the Loss of Power": Wordsworth, Pestalozzi and the 'Spots of Time," *European Romantic Review* 8.3 (1997): 231–61.

the same even though different people experience them at different times and places. But Wordsworth extends Berkeley's line of thought, suggesting that the eye registers signs referring to feelings that people and things express in the present, as well as to future feelings following the end of humanity.

A visual language in nature must have appealed to Wordsworth initially because it requires no specialized training to read. Wordsworth describes the would-be peddler at age six in what is perhaps the most explicit case of reading the visual language and its connection to feeling:

> He had early learn'd
> To reverence the Volume which displays
> the mystery, the life which cannot die:
> But in the mountains did he *feel* his faith:
> There did he see the writing. All things there
> Breath'd immortality, revolving life,
> And greatness still revolving: infinite.
> There littleness was not; the least of things
> Seem'd infinite and there his spirit shap'd
> Her prospects, nor did he *believe*, he saw.
>
> (E 213–22)

The boy's encounter with the mountain is guided less by the way he has been taught "to reverence" the book of nature and more through an affectivity affirming the signs he sees. Signs and feelings almost collapse into the same as magnitude and volume disappear from perception and the extensive world gives way to an intensive surface. The young swain forgets what he has learned through everyday experience about objects' three-dimensionality and instead sees what Wordsworth describes in *The Prelude* as "the characters / Of danger or desire" inscribed on the "surface of the universal earth" where "Triumph, and delight, and hope, and fear / Work like a sea" (1.490–501). The signs are legible as signs to the young swain, but they do not refer to an individuated affect as implied in the last line by the series of conjunctions. Or more likely, the feeling is individuated but not the young boy's conception of it. The universe to the child is an ocean of signs constantly changing, nonsense that still manages to communicate pleasure or pain to the observer but without definition.

Without a body of knowledge for reading such signs the observer lacks a means by which to identify and discriminate colors and shapes with regularity: Geometry can provide that body of knowledge. Wordsworth's story presents two kinds of geometry in the peddler's upbringing. One instance involves measuring a peak outdoors:

> oft did he take delight
> To measure th'altitude of some tall crag
> Which is the eagle's birth-place, or some peak
> Familiar with forgotten years, which shews
> Inscrib'd, as with the silence of the thought,
> Upon its bleak and visionary sides
> The history of many a winter storm
> Or obscure records of the path of fire
> Yet with these lonesome sciences he still
> Continued to amuse the heavier hours
> Of Solitude. (E 261–71)

With this brand of practical geometry, the peddler now sees extensively. He no longer "*feel*[s]" the visual language in the volume of nature; no longer does he hold the signs of nature in the "balance of feeling." Rather he measures the mountain in terms of its height. Wordsworth regards the introduction of geometrical optics into the peddler's vision as a serious alteration to seeing. In *The Prelude*, Wordsworth laments that human eyes are now "crossed by butterflies," by which he means that sight is actually determined by the points and lines of diagrams demonstrating how vision works in the treatises of geometrical optics (3.456–69). Vision is determined by an embodied technical system.[44] Thus to remain at the level of practical geometry is to see the mountain strictly in terms of an extensive geometrical space.

But prior to this scene of extensive measurement, the peddler's learning has already taken a speculative turn, which for Wordsworth redirects the eye "inward." Seated before his books the young peddler "linger'd in the elements / Of science, and among her simplest laws, / His triangles, they were the stars of Heaven" (E 258–60). The peddler's vision of triangles marks the height of speculative thought in the poem, as they are non-epistemological universals. To what do they pertain beyond themselves? They have no hand in the demonstration of figures drawn on paper. As an eighteenth-century commentator puts it, the figure of speculative geometry is considered in its "approximation to perfection," guided by "theory," and without the aid of tools and extensive demonstrations.[45] The association between stars and triangles thus refers to the fact that the speculative sciences focus on what is constant and universal, without change or accident.

The backwards order in which Wordsworth presents the peddler's geometrical education, from the speculative to the practical (I have presented them in the order

44 Thus Wordsworth recognizes the unfolding history of what Lev Manovich calls the "automation of sight," in *The Language of New Media* (Cambridge: MIT Press, 2002), 85–6.

45 George Adams, *Geometrical and Graphical Essays Containing a Description of Mathematical Instruments Used in Geometry, Civil and Military Surveying, Leveling and Perspective, with Many New Problems* (London, 1791), 54, accessed 8 August 2013. *Eighteenth Century Collections Online* (ECCO). Gale Group.

in which they would actually be taught[46]), is meant to stress the fact that the peddler brings with him an understanding of the universal to an extensive domain. Such an addition offers a positive means for working through the loss and mourning associated with a world in decay.[47] The peddler loses his father early on in life; the "wasting power" he sees in all earthly things also depresses him; and yet, the entrance of speculative geometry offers a degree of solace (E 103, 250–7). The boy starts to combine the various shades of light and darkness he sees written in nature with an understanding of geometrical laws. In other words, his speculative knowledge now informs his epistemology: the peddler's concept of universals allows him to understand the perishing of nature's surfaces in terms of a corresponding, "austere truth." The mountainside is thus "visionary"; its markings tell a "history" of catastrophes, catastrophes that possibly predate any human witness. His new knowledge allows the peddler to register the permanence of an earthly event as signified by its surface markings in proportion to stars and the concept of a triangle. Thus the knowledge that the transient world of appearance refers to something (seemingly) everlasting prevents the peddler from brooding for too long over decay and enables him to love despite loss.

Wordsworth is now in position to advance his science of feelings. When the peddler finally leaves home and begins his travels around the country, his speculative geometry serves as a propaedeutic to an understanding that different people in different places can hold a feeling in common. Before the peddler's nineteenth birthday:

> From his native Hills
> He wander'd far: much did he see of men,
> Their manners, their enjoyments, and pursuits,
> Their passions, and their feelings, chiefly those
> Essential and eternal in the heart,
> Which, 'mid the simpler forms of rural life,
> Exist more simple in their elements
> And speak a plainer language. (E 299–306)

The feelings that the peddler encounters are the simple elements of rural life. Are the "elements" of rural life the same as the "simplest laws" of speculative geometry (or Euclid's *Elements*)?[48] Love and a triangle are not the same thing, but Wordsworth suggests that geometrical and affective elements belong to a similar domain, a non-extensive dimension that also allows both to escape temporal conditions ("eternal

46 Rousseau, 167.

47 Mathematics can reawaken the soul when it is distracted by earthly concerns, according to Plato, "The Republic," *Complete Works*, ed. John Cooper (Indianapolis: Hackett, 1997), 527d–e. The same appears in Proclus, *A Commentary on the First Book of Euclid's Elements*, tr. Glenn R. Morrow (Princeton: Princeton UP, 1970), 17.

48 Proclus says that written language contains "primal elements […] so also in geometry" (59).

in the heart"). Speculative geometry precedes this stage in the peddler's education because it allows him to recognize that words are arbitrary signs referring to universal feelings. Whereas the peddler feels an ocean of signs in his youth, speculative geometry provides him with the tools to construct individuated and universal feelings that correspond with the signs of human speech, manners, and gestures.[49]

More impressively, the peddler recognizes the signs of feelings beyond everyday encounters. As book one of *The Pedlar* comes to a close, the narrator explains how age had compressed the color of the peddler's cheeks into narrow circles, but the years,

> had not tam'd his eye, which, under brows
> Shaggy and grey, had meanings which it brought
> From years of youth, which, like a being made
> Of many beings, he had wondrous skill
> To blend with knowl[edge] of the years to come,
> Human or such as lie beyond the grave.
>
> (E 369–74)

"Knowledge of the years to come" is an advancement from the peddler's boyhood readings when he "o'erlook'd / The listless hours" of calendar time and his geological readings of past catastrophes (E 248–9). As it turns out, there is nothing to bar his sight from registering future catastrophes either. After all, the peddler is Wordsworth's reminder to readers that all humans perish and eventually "Even of the good is no memorial left" (B 134). Does the peddler's vision imply that he actually "*feel*[s]" the "living presence" that "still subsist[s]" after humankind expires, to which Wordsworth refers in the "Arab Dream" (*The Prelude* 5.49–139)? The same dream provides a hint. In preparation for an apocalyptic deluge and the subsequent end to the human species, the Arab is on his way to bury the books of poetry and geometry. He must bury these two together because poetry is a force of change for geometry; without the spirit of poetry, the spirit of geometry becomes "inert."[50] For the peddler, he has a "wondrous skill / To blend with know[ledge]" this future spirit, largely on account of his ability to also "blend" poetry and geometry as signified by his rose-red cheeks compressed into circles: a flower for verse and a circle for mathematics. Thus the peddler's embodiment of poetry and geometry suggests a kind of creative mathematics, or theoretical poetry, that allows him a degree of "access" to future years.[51]

49 On vision and individual feelings see also Frederick Pottle, "William Wordsworth: The Eye and the Object in the Poetry of Wordsworth," *Romanticism and Consciousness*, ed. Harold Bloom (New York: Norton, 1970), 273–87, at 280.

50 Coleridge writes in a marginal note to John Seldon's *Table Talk* that verses "are not logic: but they are, or ought to be the envoys or representatives of that vital passion which is the practical cement of logic, and without which logic must remain inert" in *The Collected Works of Samuel Taylor Coleridge*, ed. H. J. Jackson and George Whalley, at 679, vol. 12.4. I take it for granted that to alter the logic of geometry is to alter geometry itself.

51 Wordsworth's investigation into a reality after human extinction places him in conversation with

In this section I showed how speculative geometry informs the peddler's reading of signs, which express an affective-spiritual activity. To recognize these signs with greater regularity, the peddler relies on speculative geometry for its introduction to elements and universal validity. If these lessons are then incorporated into a "science of feelings," the order can be understood accordingly: Signs correspond with an affective activity operating in a non-extensive domain; a reader measures these perceived signs in nature (and poetry) based on the intensity of an affective response; and the lessons from speculative geometry allow the reader in one move to recognize these feelings as universal, and in a second move to nominate these feelings in such a way that they can be communicated to others in different times and places. For the peddler, this final form is the story of Margaret.

The Logic of Affect

The final aim of the poet's geometrical education is logic. It is the culminating step in the peddler's studies, and the logic of affect is the intended techne for his pupil, the poet. As James Chandler notes, a direct causal relationship exists between the poet hearing the [peddler's] story and gaining a "new virtue," a new power "founded specifically on the recognition of an emerging 'discipline' in his humanized faculties."[52] But how does this discipline work? In this final section I want to outline the succeeding steps by which the peddler and the poet arrive at the affects they claim to experience, and more importantly, on what basis they claim that these steps assure a degree of certainty regarding these feelings.

When the poet finally feels the signs surrounding Margaret's cottage, he arrives at those feelings by way of a logical order. Having heard the conclusion of the peddler's tale the poet "[reviews] that Woman's suff'rings" (D 498). Whereas previously he arbitrarily indexed objects within the vicinity, with the poet's double-look ("review"), he now transitions from seeing extensive things to feeling intensive qualities: "her plants, her weeds, and flowers, / And silent overgrowings" (D 505). "Her" in this series is replaced by "and," moving from Margaret's plants and weeds in particular to the more general flowers, before the extensive quality of the vegetation dissipates

recent trends in continental philosophy. The "speculative turn," as it is commonly referred to, marks an attempt to reexamine reality outside of human consciousness, often by considering the universe prior to human existence and after human extinction. Quentin Meillassoux, in *After Finitude: An Essay on the Necessity of Contingency*, tr. Ray Brassier (New York: Continuum, 2008), inaugurated the discussion with his critique of philosophy's tendency to disavow access to things in themselves due to their transfiguration into things "for us" (namely through language), a tendency he calls, "correlationism" (1–5ff.). The peddler's ability to have knowledge of future years through a combination of feeling a future reality and communicating it by constructing a story to embody that feeling, places him in an interesting position with respect to correlationism. Feeling a future reality does not mean that this "knowledge" is "for us" necessarily. Because feelings traverse human and non-human entities for Wordsworth, the peddler only becomes ensnared within the correlationist circle upon converting his feeling into a tale.

52 *Wordsworth's Second Nature: A Study of the Poetry and Politics* (Chicago: University of Chicago Press, 1984), 125.

entirely and three-dimensional things are registered instead as "silent overgrowings." Such an order defies any conformity to linear reading. The poet's line of sight may begin at a particular spatial location, but by the time he finishes this reading, he ceases to register left, right, top, or bottom, directional qualities that belong to an extensive dimension. Rather the poet's vision transitions from seeing things according to particular location coordinates to feeling the things he sees.

It is tempting to say that "silent overgrowings" looks forward to the "spontaneous overflow of powerful feelings" from the 1800 Preface to the *Lyrical Ballads*.[53] In the context of the Preface, the spontaneous overflow of feelings occurs for the author. The author achieves such a level of feeling after constructing a logical configuration of representations (past feelings), determining how they relate to one another and with what particular object or event ("important subjects") they are associated.[54] Once these feelings and their association with an object are established by repeatedly contemplating their manifold relations, a logical sequence becomes habituated, until at length the poet "obey[s] blindly and mechanically the impulses of those habits."[55] Such an automatic process of thought clarifies what Wordsworth means by "spontaneous." When a logical sequence of many feelings is processed but compressed into an almost instantaneous unit of thought, as when hearing a word becomes indissociable from understanding its larger meaning, only then does the poet achieve a spontaneous overflow of feelings. While automatic, this spontaneity separates the sequence of thoughts and consequent feelings from the automaton's sequential motions. An automaton's movements are mechanical and repeated but never compressed; the automaton must proceed algorithmically or one step at a time regardless of the speed at which it proceeds. Ultimately, the automatic sequence empowers the poet to speak on an object so as to persuade auditors/readers of its affective quality.

In *The Ruined Cottage*, such spontaneity applies not to the poet but to the peddler who has long "rehearsed" his tale (B 266). In a group of lines Wordsworth borrows to describe his own reading in book three of *The Prelude*, the peddler, we are told:

> had an eye which evermore
> Looked deep into the shades of difference

53 "Preface to the *Lyrical Ballads* (1800)," *The Prose Works of William Wordsworth*, ed. W. J. B. Owen and J. W. Smyser, 3 vols (Oxford: Clarendon Press, 1974), 126, vol. 1.

54 The discussion of association of ideas in the Preface recalls Hartley's theory of association, a likely source for Wordsworth. For Hartley, simple ideas/sensations are contemplated and come to form a more complicated idea (e.g. "beauty, honour, moral qualities, &c.") that, *à la* Berkeley, resembles not at all the original sensations. See *Observations on Man, His Frame, His Duty, and His Expectations* (1749; Gainesville: Scholars' Facsimiles and Reprints, 1966), 73–9, at 75.

55 Raimonda Modiano, in "Wordsworth's Theory of Poetry," *The Oxford Handbook of William Wordsworth*, ed. Richard Gravil and Daniel Robinson (Oxford: Oxford University Press, forthcoming), shows how the "spontaneous overflow of powerful feelings" refers less to primitive affects and more to meditation and habit.

> As they lie hid in all exterior forms,
> Which from a stone, a tree, a withered leaf,
> To the broad ocean and the azure heavens
> Spangled with kindred multitudes of stars,
> Could find no surface where its power might sleep,
> Which spake perpetual logic to his soul
> And by an unrelenting agency
> Did bind his feelings even as in a chain.
>
> (B 94–103)

Reference to this "perpetual logic" that "binds" the peddler's feelings "even as in a chain" implies a necessary sequence, such as found in the synthetic, logical method upon which Euclid's *Elements* is based. Despite their importance, there is not space here to fully elucidate the historical significance of the terms "synthetic" or "method."[56] For now I want to stress the fact that Wordsworth views his logical method as leading from one step to the next necessarily. As he says in a fragment poem originally intended for *The Ruined Cottage* but later adapted for book four of *The Excursion*:

> Thus deeply drinking in the soul of things
> We shall be wise perforce, and we shall move
> From strict necessity along the path
> Of order and of good. Whate'er we see
> Whate'er we feel by agency direct
> Or indirect shall tend to feed and nurse
> Our faculties and raise to loftier height
> Our intellectual soul.[57]

In the past, the presence of "necessity" in Wordsworth has been attributed to Godwin's "doctrine of necessity" from *Political Justice*.[58] More recently William Ulmer has pointed to a connection with the One Life and pantheism.[59] While Wordsworth eventually rejects Godwinian necessity, and he finds the moral ambivalence of Coleridge's One Life attractive for a time, the kind of "necessity" that endures in Wordsworth's thinking belongs to logic. He maintains in *Essay Upon Epitaphs III*,

56 In the simplest terms, synthesis is the movement from a singular given (a point) towards the construction of a more complicated figure (triangle). See Michael Beaney, "Analysis," *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, winter 2012 ed., http://plato.stanford.edu/archives/win2012/entries/analysis/. Accessed 11 September 2013. For an overview of "method," see Peter Dear, "Method and the Study of Nature," *The Cambridge History of Seventeenth-Century Philosophy*, ed. Daniel Garber and Michael Ayers (Cambridge: Cambridge University Press, 1998), 147–77.

57 "Transcriptions of Additions to MS. D," *RC&P*, 371–5, at 69r 8–15.

58 For Godwin's influence on Wordsworth see Moorman, *William Wordsworth*, 261–5.

59 *The Christian Wordsworth: 1798–1805* (Albany: SUNY Press, 2001), 38–9.

written in 1810, that only through opaque, frequent, and regular readings will a passerby arrive at the desired affect, which is to say that a good epitaph must avoid accidental readings.[60] Ultimately, to arrive at a particular feeling one must follow a sequence of ideas "necessarily," and if the sequence is rehearsed, its effect will eventually be felt spontaneously.

But within this logic lies a danger. The peddler's logic allows the observer to arrive purposefully at an affect and avoid accidental readings (Wordsworth insists that his poems have a "worthy *purpose*"),[61] but at the close of MS. B, the peddler's story of Margaret comes to an abrupt end. The trouble with this ending is the story's unqualified impact on the poet (as well as the reader). Upon hearing the peddler's story, the poet "instinctively" rises and conducts his reading of Margaret's garden in "weakness," blessing what he sees in the "impotence of grief" (D 493–502). Beginning the poem with a weak arm and ending the poem in weakness, perhaps the poet gains some skill in sight but he remains weak in his reading. As a consequence, when Margaret's signs overwhelm him, he lacks a mechanism for disengaging from these feelings. He appears to enter, as Goodman would say, a kind of "automatism," wherein involuntary compulsion ("instinctively") and volition (the poet's intentional reading) actually cohere, a necessary step on the way to feeling.[62] And yet, without a mechanism to stop, this automatism eventually becomes equivalent to Margaret's ruminations. The ruminating automaton is Wordsworth's primary fear in this entire trajectory. One can ascend through the ranks of geometry, following the synthetic method on the way to a grand, Platonic construction, but the risk remains that on the way to truth one's reading becomes repetitive without significant change. That is, one goes mad.

Geoffrey Hartman famously begins *Wordsworth's Poetry: 1787–1814* by examining Wordsworth's precarious "lengthening" of moods or feelings by way of "surmise" (8–9). Once a feeling begins, Wordsworth wants to multiply it by oscillating back and forth from the determinate to the indeterminate. Testing the integrity of a feeling's intensity in this way is precisely the kind of innovation that belongs to Wordsworth's science of feelings. But we must also consider a way out from such an affective dimension for the sake of the young poet, easily caught in an intensive reading from which he cannot remove himself. When Wordsworth extends the closing lines to *The Ruined Cottage*, he adds the peddler's gentle injunction ("enough to sorrow have you given"), and thus includes within the poet's logical sequence a command to pause and cease the affect's construction (D 508).[63] The peddler's command is especially

60 *The Prose Works of William Wordsworth*, 84, vol. 2. Wordsworth espouses a need for a regular method (which avoids chance or accident) in order "to bring [people] into communion with the inner sprit of things!"

61 "Preface to the *Lyrical Ballads* (1800)," 125.

62 "'Uncertain Disease,'" 221–2.

63 While these lines were written for MS D of *The Ruined Cottage* in 1799, they anticipate Wordsworth's many revisions to *The Pedlar* and his own inability to disengage from the text, from late

important because it disrupts the logical method and redirects the poet's ascent through the geometrical ranks: he must return to an extensive plane, retiring to an inn before "the stars were visible," as if returning to a mode of understanding prior to speculative thought (D 537).

Nowhere in Euclid's *Elements* is there an imperative statement that commands the pupil to quit reading, tracing, or meditating on its propositions, and so the student is encouraged to operate in a compulsive exchange between the confines of the page and the infinitude of the mind. Conversely, to engage with a "timeless" feeling without a means to disengage from it is to force the poet into an algorithmic act without thought or reflection. But with the additional command in *The Ruined Cottage*, Wordsworth provides the poet with an opportunity to forget what he has encountered and recollect—really, construct—this feeling at a later time in "tranquility."[64] Such a move places Wordsworth in a lineage that disrupts the logical form of Euclidean geometry from Descartes to the non-Euclidean geometers of the nineteenth century.[65] Thus the case could be made, retrospectively, for Wordsworth's contribution to a sentiment that prepares future audiences for an embrace of new geometries.

Yet in the context of his poetry, the adaptation of geometry's underlying logic is ultimately in the service of Wordsworth's science of feelings. Geometry teaches the pupil how a sign might refer to something that subsists beyond the scope of a single life or species. Its logic teaches how one might arrive at a feeling, not by circumstance or accident, but through a series of steps that can be repeated and taught, moving from the subjective and extensive, to the objective and intensive.[66] Although not wide open, the sequence of operations remains subject to change, incorporating new commands that can redirect the pupil to new and different feelings. The principles of this science thus function as guides for revealing feelings in addition to determining what those feelings are, a process of discovery and construction rather than presupposition and confirmation. No one requires this science in order to feel, as untrained shepherds demonstrate. But as a method, Wordsworth's pupil arrives at an affect beyond what the untrained eye can see or the animal passions can measure, beyond the perceived present and the expressions of the living.

1801 until July of 1802 on account of which he suffered many physical pains as recorded in Dorothy Wordsworth's journals. See Butler, "Introduction," *RC&P*, 23–5.

64 "Preface to the *Lyrical Ballads* (1800)," 148.

65 On Descartes' additions to the synthetic and analytic method see Dear, 157, n. 58. George Berkeley is credited with inaugurating this lineage in Great Britain in Robert Schwartz, *Vision: Variations on Some Berkeleian Themes* (Oxford: Blackwell, 1994), 6, and Joan Richards, *Mathematical Visions: The Pursuit of Geometry in Victorian England* (Boston: Academic Press, 1988), 101. Richards also traces the development of non-Euclidean geometry throughout her book. I am grateful to Elena Fratto for referring me to this valuable source.

66 On feelings as objective things, see Rei Terada, *Feeling in Theory: Emotion After the "Death of the Subject"* (Cambridge: Harvard University Press, 2001).