

## WHITMAN IN THE ABSTRACT

AS A REAL-ESTATE DEVELOPER and contractor during the gestational years of *Leaves of Grass*, Walt Whitman's livelihood depended on his ability to add, subtract, multiply, and divide. Based on receipts collected by Charles Feinberg, it is clear that Whitman took these mathematics seriously, at least when it came to money.<sup>1</sup> (Try dividing 211.5 by 8 on paper, without using long division, and you will get a sense of his capabilities.)<sup>2</sup> Like Herman Melville, Whitman taught arithmetic as a young schoolmaster, but while Melville earned a certificate in engineering and maintained a lifelong interest in mathematics and math textbooks, Whitman's knowledge of the discipline was probably less extensive.<sup>3</sup> Nevertheless, he had powerful feelings about math, some positive, some negative. On the one hand, Whitman felt a certain suspicion of figures, and figurers especially. It appears in his poetry, most infamously in his distaste at "the proofs, the figures, . . . the charts and the diagrams" of the "learn'd astronomer."<sup>4</sup> He voiced it even more frequently in private life, often in reference to his book sales. Whitman once told friend and scribe Horace Traubel that "They say, figures can't lie. I would suggest the saying without the 'can't,'" to which Traubel suggested that "figures can't lie, but figurers can." (That got a laugh out of Whitman. "This is better—and they do!"<sup>5</sup>) Yet, with all his skepticism of quantifiers, Whitman was one himself: in verse, Whitman quantifies ecstatically.

It is understandable how large numbers might become something of a poetic fetish, for a poet of the "kosmos." Of the size of the universe, Whitman ventures in his 1855 *Leaves of Grass* that "[a] few quadrillions of eras, a few octillions of cubic leagues, do not hazard the span," and that the reader may "See ever so far . . . [yet] there is limitless space outside of that,/ Count ever so much . . . there is limitless time around that."<sup>6</sup> Or, again in the 1855 *Leaves*, readers feel the force of his insistence that "[t]his minute that comes to me over the past decillions,/ There is no better than it and now" (52). Second only to Melville, Whitman is probably the most arithmetical (numerological? arithmophilic?) of nineteenth-century poets, a status that begs the questions: What do Whitman's numbers tell us about the philos-

ophy of his poetics? Of what use is mathematics to a poet? As good a starting point as any may be Whitman's "decillions." They appear not once but twice in the 1855 *Leaves*. Writing of the origins of "this round and delicious globe," Whitman reveals that "I do not think it was made in six days, nor in ten thousand years, nor ten decillions" (LG1855 92). Whether coming to *Leaves of Grass* for the first time or the hundredth, readers may find themselves pausing, yet again, at that final word. What, indeed, is a decillion? It is clearly a very, very, very large number, a "1" at the head of a long line of zeroes; I doubt most readers could say exactly how many, off the top of their heads.<sup>7</sup> (I certainly couldn't.) Even so, the "-illions" stem indicates that a decillion is a number on a truly intergalactic scale, massive beyond all imagination. Here, then, is the most immediate function of selecting such a number: Whitman, the lifelong etymologist and word lover, deliberately chooses the freshest word, direct, unusual, poetically unassociated, free of threadbareness. For its being unfamiliar, even jarring, a "decillion" or an "octillion" carries more heft than, say, "infinite"—which word, to be fair, makes its share of appearances in *Leaves*. By Whitman's day, "infinite" had already been a poetic mainstay for the better part of a millennium, used by everyone from Shakespeare to describe jest, to Milton to describe wrath and despair, to Browning to describe passion, to Marlowe to describe riches in a little room. It is a word that, in a poetics of multitudes (like Whitman's), begs to appear over and over. The risk, of course, is detachment from reality. Infinity is not so much a number but a concept, one with no precise referent in nature. Used too liberally, "infinite" can become mere rote sound, as opaque as sermon Latin. Whitman, who would have no opacity in poetry, reminds himself in a jotted note, to

In future *Leaves of Grass*[,] *Be more severe* with the final revision of the poem, nothing will do, not one word or sentence, that is not *perfectly clear*—with positive purpose—harmony with the name, nature, drift of the poem. Also *no ornaments*, especially *no ornamental adjectives*, unless they have come molten hot, and imperiously prove themselves. *No ornamental similes at all—not one: perfect transparent clearness* sanity and health are wanted—that is the *divine style*—O if it can be attained— (NUPM 1:385)

Language, Emerson's "fossil poetry," fossilizes in its repetition, and by the nineteenth century oft-repeated words like "infinite" and "God" must have seemed terribly calcified.<sup>8</sup> To merit enfolding into *Leaves*, a word needed juice. As he would later tell Traubel of his poetics, "[i]t is a reminiscence of the open air, the sky, the sea, and no one knows how precious these are—have been—to me. And indeed, it is to surcharge 'Leaves of Grass' with them that was my presiding spinal purpose from the start" (*WWWC* 7:414). Thus, Whitman's mathematics demonstrates his insistence on the unfamiliar over the shopworn, on words that "come molten hot, and imperiously prove themselves."

Yet, per the premise of a great deal of literary theory, words are not the things they signify. A "trillion" may convey a more visceral sense of immensity than "infinite," but each is still eight black marks on paper (or in pixels). Regardless of imagistic heft, the abstractness of math, especially in its long Pythagorean and Platonic idealist traditions, would seem to run counter to the spirit of Whitman's poetry.<sup>9</sup> That spirit, the "brawn" of *Leaves of Grass*, he wrote in 1876,

is a sense of the life, as it should be, of flesh and blood, and physical urge, and animalism. While there are other themes, and plenty of abstract thoughts and poems in the volume . . . to make a type-portrait for living, active, worldly, healthy personality, objective as well as subjective, joyful and potent, and modern and free, distinctively for the use of the United States, male and female, through the long future—has been, I say, my general object.<sup>10</sup>

Whitman may have had some instinct that math, for all its imagistic force, might well flatten out the poetry. Indeed, his superficial attraction to numbers often belies, for the reader new to Whitman, his countervailing suspicion of enumeration. The poet's arithmetical moments, the "decillions" and "octillions" and so on, often come couched in a broader skepticism of abstraction, of what Emerson might call the "evanescence and lubricity" of the mathematical object, its inability to convey essence or tangibility. ("Pure or speculative Mathematics," as Whitman writes to himself, "considers quantity abstractly, without relation to matter."<sup>11</sup>) Thus, "[a] few quadrillions of eras, a few octillions of cubic leagues," he writes, "do *not* hazard the span" of the

universe”; “[t]his minute that comes to me over the past decillions,/ There is *no* better than it and now” (LG1855 28; emphasis mine). Whitman adds that “I do *not* think seventy years is the time of a man or woman,/ *Nor* that seventy millions of years is the time of a man or woman,/ *Nor* that years will ever stop the existence of me or any one else” (LG1855 92; again, emphasis mine). Indeed, his misgivings about counting almost invariably crop up when Whitman is (what else) counting, and this from a man who loves to count. It is he, after all, who tallies the words of the West’s great epics—895,752 in the Bible (“excluding the Apocrypha”), 115,500 in the *Aeneid*, 96,500 in *Paradise Lost*, 150,500 in the third edition of *Leaves of Grass*.<sup>12</sup> But it is also Whitman who writes, of “[t]he premises of the prudence of life,” that “[n]o specification is necessary . . . to add or subtract or divide is in vain” (LG1855 x). Math is, as Whitman describes it, “the science that treats of quantity, whatever can be measured, numbered etc,” but his poetic conceits are often those things that *cannot* be measured or numbered—the “procreant urge” of “pent up, aching rivers,” the soul like a “noiseless patient spider,” the “glories strung like beads on my smallest sights and hearings.”<sup>13</sup> Numbers must fail.

It is a failure that goes to the heart of the philosophy of *Leaves of Grass*—by which I do not mean its guiding poetic principles, but more literally its ontology and epistemology. What is real? How do we come to know it, and to what extent can it be communicated? Whitman’s answers, such as they are, set him apart from literary traditions against which his poetry is, in part, a reaction. The romantic and transcendental epistemologies of the sublime, of direct, aesthetic connection to the natural world, of course form a foundation for much of the poetry of the nineteenth century, *Leaves of Grass* included, but as Whitman’s investment in mathematics suggests, his philosophy departs from these in both scale and materiality. For Whitman, sublimity is not a function of mere vastitude; it may indeed be experienced on any scale, the small just as well as large, from something as simple and unromantic as a blade of grass, or the feel of a book, with none of the requisite existential awe. And materially, Whitman seems, superficially at least, to abhor the vacuum of the abstract. The iron thread through *Leaves of Grass* is his insistence, contra tran-

scendentalism, that there is nothing more than the physical cosmos, no Platonic ideals or Emersonian Over-soul, nothing beyond what is tangible and immediate. What better way to democratize the poetic experience? Yet, the irony of such philosophical commitments, as illustrated by Whitman's ambivalence toward numbers, is that even the least abstract of poetics is still founded upon abstractions, signifiers.

Why, in other words, did Whitman build a life's work from something so abstract as words? An artist and friend to artists, he could have worked in any medium he chose, music, marble, paint, clay, wood—indeed, the man who wrote the first edition of *Leaves* was a woodworker. Yet, for him, even wood seems not to have had the materiality of language. “Great is language,” Whitman effuses, “it is the mightiest of the sciences, / It is the fulness and color and form and diversity of the earth . . . and of men and women . . . and of all qualities and processes; / It is greater than wealth . . . it is greater than buildings or ships or religions or paintings or music” (LG1855 94). Perhaps this is because, as Ed Folsom has argued, words had a particularly palpable physical reality for someone who had been a printer's devil and typesetter from the age of twelve. “Whitman,” he points out, “is the only major American poet of the nineteenth century to have an intimate association with the art of bookmaking.”<sup>14</sup> Or perhaps Whitman's engagements with numbering constitute some attempt to reconcile to the natural world a pursuit (mathematics) that had come, falsely, to seem remote from robust, everyday living. In his “Manly Health and Training” tract (1858), for example, the poet blames “the prevalence of a far more artificial life” of bean-counting, that “indoor work” of clerks and lawyers, for “the deleterious effect on the general health.”<sup>15</sup> In *Walden* (1854), Thoreau's dichotomy between manual labor and cerebral arithmetic is another fine example of this duality:

“But,” says one, “you do not mean that the students should go to work with their hands instead of their heads?” I do not mean that exactly, but I mean something which he might think a good deal like that; I mean that they should not *play* life, or *study* it merely, while the community supports them at this expensive game, but earnestly *live* it from beginning to end. How could youths better learn to live than by at once trying the experiment of living? Methinks this would exercise their minds as much as mathematics.<sup>16</sup>

I doubt Whitman would have disagreed with this indictment of math; after all, in “Manly Health” he recommends exercise—and even vanity!—as being “of quite as much importance as any . . . arithmetic.”<sup>17</sup> Yet, even in his ambivalence toward mathematics as a practice, I do not see Whitman fully flinching away from the abstraction of numbers, any more than he abandons words for their being signifiers. To him, even pure concepts seem to have been part and parcel of the natural world, with their own poetic materiality.

Thus, I see great promise in the ongoing critical effort to read Whitman’s poetry from new-materialist perspectives. It is not only that Whitman’s poetry may be productively read from non-anthropocentric points of view, giving his numbers a vitality beyond their mere relation to people. (New materialism, after all, may be defined as the de-centering of humanity in the natural world.)<sup>18</sup> Nor do Whitman’s poetics merely lend themselves to discussions of the rise of the material sciences, physics, biology, chemistry, industrial technology, and so on—though they most certainly do. Rather, it is because of the tension in his poetry between object and perception, and the materiality with which he invests, almost synesthetically, even so seemingly abstract an object as a number—and all this in the face of his commitment to the direct, the noumenal. Are numbers, too, things in Whitman’s kosmos? In a poetics of the material multitude, does multitudinousness itself merit materiality?

It is tempting to say yes. Indeed, we might even try to fit *Leaves* to some sort of neo-platonic ontology, in which reality is founded upon the unit, the One—or, perhaps better, to a Badiouan ontology in which not the one but the many, the very multitude, independent of its constituent objects, is reality, the bedrock of nature. French philosopher Alain Badiou posits this ontology in his *Being and Event*: “Insofar as being, qua being, is nothing other than pure multiplicity, it is legitimate to say that ontology, the science of being qua being, is nothing other than mathematics itself.”<sup>19</sup> This philosophy is but the latest in a long tradition, explored by Immanuel Kant and formalized by Gottlob Frege but stretching all the way back to Pythagoras. Are Whitman’s numbers their numbers? Here is where I begin to doubt. The relationship between math and poetry is, to put it mildly,



fraught. Badiou, for one, is not only careful to distinguish between the two, but also adamant that math is epistemologically *true*, and that it thus lays greater claim to “first philosophy” than poetry ever could (a debate at least as old as Plato).<sup>20</sup> It is doubtful that Whitman would have conceded such a point. He writes, after all, that “[t]he greatest of thoughts and truths . . . are not susceptible of proof like a sum in simple multiplication” (*NUPM* 1:183). This is not to insist that the poet is beyond platonic philosophy in practice, nor the abstract in general; indeed, even in his leaves of grass he sees the “uniform hieroglyphic” of numbers, their universal and abstract element—but that is the least of what he sees (*LG*1855 16). The grass is, more importantly, grass. To be touched, sniffed, loafed upon, fetched up in childish handfuls. Can Whitman, or any poet for that matter, ever truly be a platonist? As the mathematicians say:

The answer is left as an exercise for the reader.

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## NOTES

1 For Feinberg’s account of these receipts, see “A Whitman Collector Destroys a Whitman Myth,” in the *The Papers of the Bibliographical Society of America* 52 (January 1, 1958), 73-92.

2 These particular numbers come from a manuscript sheet collected by Feinberg, now housed in Duke University’s Walt Whitman papers (formerly the Trent Collection of Whitmaniana). The manuscript in question is titled “July 31st 1852 - Mr. Scofield owes W.W.,” a transcript of which, minus much of the math, may be found in Whitman’s *Notebooks and Unpublished Prose Manuscripts* (New York: New York University Press, 1984), 1:100, hereafter *NUPM*. Editor Edward F. Grier points out that Whitman makes at least one adding error. More of Whitman’s handwritten calculations may be found in Charles B. Green’s “‘Missing Me One Place Search Another’: Three Previously Unpublished Walt Whitman Notebooks,” *Walt Whitman Quarterly Review* 15 (Spring 1998), 151.

3 For more on Melville’s facility with mathematics, see Meredith Farmer’s “Herman Melville and Joseph Henry at the Albany Academy; or, Melville’s Education in Mathematics and Science,” *Leviathan* 18 (June 2016), 4-28; and Zachary Turpin’s “Melville, Mathematics, and Platonic Idealism,” *Leviathan* 17

(June 2015), 18-34. Melville also appears in the context of mathematics and the sciences in Brett Zimmerman's *Herman Melville: Stargazer* (Montreal: McGill-Queen's University Press, 1998), and alongside Whitman in Muriel Rukeyser's biography of nineteenth-century physicist *Willard Gibbs* (Woodbridge, CT: Ox Bow Press, 1988). For his part as a schoolteacher, Whitman is known to have taught the "commoner rules of arithmetic," as well as practical skills like mental math. See Natalie A. Naylor's "Walter Whitman at School: Education and Teaching in the Nineteenth Century," in *New York History* 86.1 (Winter 2005), 6-27, quote on p. 23. For Whitman's thoughts on math pedagogy, which generally emphasize the utility of arithmetic in business matters, see Florence Bernstein Freedman's *Walt Whitman Looks at the Schools* (New York: King's Crown Press, 1950), *passim*.

4 Walt Whitman, *Drum-Taps* (New York: 1865), 32. Available on the *Walt Whitman Archive* ([www.whitmanarchive.org](http://www.whitmanarchive.org)).

5 Horace Traubel, *With Walt Whitman in Camden*, vol. 6 (Carbondale, IL: Southern Illinois University Press, 1982), 51-52. All nine volumes are available online on the *Walt Whitman Archive*, and are hereafter referred to as *WWWC*.

6 [Walt Whitman,] *Leaves of Grass* (Brooklyn, NY: 1855), 52, hereafter *LG1855*. Available on the *Walt Whitman Archive*.

7 In the United States, which follows a short scale naming system (skipping the unit of "milliard"), a decillion is  $10^{33}$ , or a one followed by thirty-three zeroes, while many other countries adhere to a long scale naming system, in which a decillion is defined as  $10^{60}$ . This long scale / short scale schism not only separates the United States from Europe but also splits the numerical unity of Canada (with English Canada following its southern neighbor and French Canada the continental long scale system).

8 See Emerson's "The Poet" in his *Essays: Second Series* (Boston: James Munroe and Company, 1844), 3-48.

9 On the contrary, Wai Chee Dimock has argued that its abstractness and "minimal semantic content" are *exactly* what suits math for poetic expression. To illustrate her point, she refers readers to (what else?) Whitman's *Leaves of Grass*, whose quadrillions and octillions "confront quantitative largeness head on." See her "Low Epic" in *Critical Inquiry* 39.3 (Spring 2013), especially pages 618-619.

10 Walt Whitman, *Complete Prose Works* (Philadelphia: David McKay, 1892), 283-284.

11 See *The Complete Prose Works of Walt Whitman*, 7 vols., ed. Thomas B. Harned and Horace L. Traubel (New York: G.P. Putnam's Sons, 1902), 6:209.

12 For these handwritten estimates, plus Whitman's tallies for the *Iliad*, the *Inferno*, and Cowper's *Complete Works*, see the front flyleaf of his personal "Blue Book" copy of the 1860 edition of *Leaves*, available on the *Walt Whitman Archive*.



13 For the leading quote about mathematics, see Whitman's *Complete Prose Works*, 6:209. For the latter quotes, see *LG1855* 14; *LG1867* 95; *LG1881-82* 343; and *LG1856* 212. In her superb article on "The Language of Measurement in Whitman's Early Writing," Peggy Z. Rosenthal explores how the poet's engagement with "high numbers" ultimately prioritizes the immeasurable. See *Texas Studies in Literature and Language* 15 (Fall 1973), 461-470.

14 See Folsom's *Whitman Making Books / Books Making Whitman* (Iowa City: Obermann Center for Advanced Studies, University of Iowa, 2005), 38. 1. Also available online on the *Walt Whitman Archive*.

15 Walt Whitman [as Mose Velsor,] "Manly Health and Training," *New York Atlas* (December 26, 1858), reprinted in *WWQR* 33 (Winter/Spring 2016), 301.

16 Henry David Thoreau, *Walden, Civil Disobedience, and Other Writings*, 3rd ed. (New York: W.W. Norton, 2008), 38.

17 Whitman, "Manly Health and Training," *New York Atlas* (October 3, 1858), reprinted in *WWQR* 33 (Winter/Spring 2016), 221.

18 For a good primer on the subject, see *New Materialisms*, ed. Diana Coole and Samantha Frost (Durham: Duke University Press, 2010), among many other such volumes.

19 Alain Badiou, *Being and Event*, trans. Oliver Feltham (London: Continuum, 2005), xii-xiii. For more of Badiou's number-based ontology, I would point readers to his dense, set-theoretical *Number and Numbers*, trans. Robin Mackay (New York: Cambridge University Press, 2008). For those in need of a comprehensive, not to say critical, overview of this ontology, I highly recommend Ricardo L. Nirenberg and David Nirenberg's "Badiou's Number: A Critique of Mathematics as Ontology," *Critical Inquiry* 37.4 (2011), 583-614.

20 He is arguing against Heidegger here. See especially Badiou's eleventh meditation, "Nature: Poem or Matheme?" in *Being and Event*, 123-129.