David Baker: e. e. cummings's "Space being... Curved"

Nineteen ninety-four was the centennial of e. e. cummings's birth. He is surely one of the twentieth century's most variously loved and spurned American poets. Several editions of his poetry are currently in print, including George J. Firmage's invaluable centenary edition of Complete Poems, which adds 195 previously uncollected cummings poems to the standard 1972 Complete Poems. But it's a pity cummings is so unevenly represented in our textbooks and anthologies. We may more likely find a handful of his sillier or trite poems, whistling "far and wee," than the rigorously odd and passionately intelligent poems that were his metier. It's an unavoidable pity, too, that he is often regarded today, as one of my students recently wrote, as the poet with the broken typewriter--the one who dismantled the formal structure of lyric verse, who sprinkled words and letters like pepper on the page, whose liberties with syntax seem, to some, like larceny. And it's probably true: no other modern poet has so distracted young writers with the glitz and apparent chaos of his "visual prosody," as Richard D. Cureton calls it. I say "apparent," because to me, while cummings is the easiest modern poet to imitate, he is also the most difficult to imitate well. His chaos is deliberate, exacting, and formally apt. Indeed, it bears more similarities to the repetitions and formal logic of chaos theory than to the chaos of the merely random or capricious.

I think of cummings as one of our last true Romantic poets. He is more a troubadour, a lover, than a Modernist inquisitor. But this too: cummings knew more about science than most other American poets of his day or ours. He is enlivened by it, curious, occasionally exasperated, but never intimidated, drawing extensive images and tropes from mathematics and physics for his own exuberantly demanding poems. Often his application of science serves as a foil to his persistent Romantic inclinations. In poems like "stand with your lover on the ending earth," "life is more true than reason will deceive," "pity this busy monster, manunkind," and dozens more, cummings employs images of progress, history, and science as negative counterpoints to his Romantic valorizations of self-reliance, passion, and intuition. These two sets of competing tropes give a sense of scale to cummings's dialectic. Typically in his poems, the boggling immensity of science, space, and the vastness of "time time time time time" shrivel to nothingness in the presence of love, imagination, and spirit: "love?s function," he writes, "is to fabricate unknownness." Or, in another poem, the "hugest whole creation may be less / incalculable than a single kiss." In the 1920s, when cummings wrote some of his finest poems, physicists became embroiled in a similar debate, trying to correlate the mathematics of Einstein's relativity theory, on its massive scale, with the minute scale of quantum mechanics as described by Eddington. In many cases, the behaviors of one system did not jibe with the behaviors of the other. Many of cummings's poems enact a parallel, insuperable tension between matters of an enormous scale and those minuscule.

"Space being(don't forget to remember)Curved" is one of my favorite cummings poems, and it provides a fine example of his insightful application of physics. Published in book form in 1931, in ViVVi, when only a few specialists understood Einstein's theories, this poem is almost visionary in its perception of the dimensions and operations of Einstein's space/time continuum. In 1905 Einstein's special theory of relativity combined the concepts of space and time by describing them with a single set of equations, where even time is a spatial dimension. By 1917, in his General Theory, he more fully calculated into his hypotheses the
influence of matter, and therefore of gravity, and so could go far beyond the flat space/time dimension of the special theory. In other words, Einstein asserted that in four-dimensional space/time—in the "real" universe—space itself is "curved," or distorted, by the influence of massive objects; the shortest distance between two points is not a straight line. A simple illustration: place a bowling ball on a mattress, and then roll a marble firmly enough to insure its path from one end of the mattress to the other. The marble will complete its journey, but its trajectory will arch, curved by the weight of the heavy ball. In Einstein's four dimensions, where even distance is measured in terms of light-years, the light that travels through the universe is, if ever so slightly, bent by the gravitational pull of objects like stars and black holes.

And here is where cummings commences his poem, itself both a thematic and structural articulation of the curvature of space and time. By the merest curving of a line, the "least crooking" of a straight finger, the simplest bending back down to four legs by a standing human figure, cummings establishes, then twists, a number of poetic devices and conventional mores. Even the stance of this poem is complicated by the intrusion of strongly conflicting points of view. No single or "straight" position will suffice to represent the complex gravity of the situation. These opposing forces appear in the first stanza, even in the first line, when one assertion, that space is curved, is interrupted by a command "(don't forget to remember)." Though parenthetical, this order is conspicuous for its central position in the line, as well as for its slightly incongruous meaning and its taunting tone. Another parenthetic addition immediately follows, separating the poem's initial absolute phrase even further from its main clause. Here, after a self-interruptive, befuddled introduction in his second line, cummings paraphrases, in his third line, the first line of Robert Frost's 1914 poem "Mending Wall." This poetic allusion corroborates and illustrates cummings's initial scientific reference. In Frost's poem, the forces of gravity and of entropy (described by the second law of thermodynamics, which states that the destination of all things is decay, that, to use Yeats's phrase, "things fall apart") undermine the stability of a rock wall, a straight line, if you will, drawn across the subtle curvature of the world: the rocks keep falling off. We know even in cummings's first stanza, then, that space is curved—and also that the universe inhabited by his poem is terribly complex, in tension with itself, composed of science as well as art, seriousness as well as satire. Positions shift. Voices intrude and instruct at the same time.

The syntactic integrity of this poem shudders even more deeply in the second stanza, where cummings again employs a pair of intruding parentheses, and where the poem's apparent main clause seems now suspended, incomplete. It is as if the poem moves too quickly, its ideas too complex, for ordinary syntax. Cummings imagines here the inheritance and reconception of Newton's law by Einstein as a kind of scientific lineage, another step in the history of science; as he exhorts, "(but we read that beFore)." It is, indeed, another line that must "curve" or bend to be fully realized. One of the landmark advances in physical science between Newton's time and Einstein's was James Clerk Maxwell's unification of the laws of electricity and magnetism in the mid 1800s. His electromagnetic force became acknowledged in the twentieth century as one of the four fundamental forces of nature, along with gravity and the strong and weak nuclear forces. Light, so important to Einstein's relativity equations, is one type of electromagnetic radiation. So cummings's adjective "electromagnetic" is quite accurate in describing Einstein. Einstein extended and thereby "preserved" the "continuum" of physicists and their discoveries by applying the laws of electromagnetic force to Newton's laws of motion. Again, this is why light bends, why the universe is curved.

In the two-line third stanza, the very middle of this poem, cummings employs an even more
punning, tongue-in-cheek discourse, deserting the previous fractured sentence. This shift indicates the crisis of the poem. Along with the ascendancy of science in the early twentieth century came serious doubts about cosmologies based on deities. As Bertrand Russell reasoned, if physicists can address and plumb the most intricate mysteries about the universe, then what use is God? If life is a physical, synaptic "Reflex," if indeed "Everything is Relative," as cummings puns on Einstein's term, then perhaps God--at least the more antique conception of God--is indeed both "Dead" and buried, deposed by those who "sum it All Up," and decapitalized by the poet. Given cummings's well-documented ambiguities about this question in dozens of other poems, it is not hard to understand his reluctance, here at the poem's center, to admit to God's demise. In fact, Richard S. Kennedy argues that this whole poem is "a bitter attack on humankind's presumptuousness in an age of new scientific theory." Certainly cummings frets about the potential erasure of the sacred, even as he understands the science involved. But if this poem is just an attack on science or vanity, I wonder why cummings so thoroughly applies--and fruitfully confirms--Einstein's curving paradigm.

If God is "Dead," cummings muses, then maybe the features historically attributed to God are really human. His lament turns into a robust, if still partly satiric, toast to "that Upwardlooking / Serene Illustrious and Beatific / Lord of Creation, Man." In his bold and capitalized shout "LONG LIVE ... MAN," he echoes the European salute that "the King is dead, long live the King" in his own version of continuity and lineage, the "continuum" along which power is passed. I think cummings's understanding of science here provides him a means by which to praise human perception and accomplishment and not, as Kennedy argues, merely to attack science as a human folly. What was Einstein's great breakthrough if not a kind of poetic vision itself, a transcendental leap from one sort of cosmos to another?

Having begun this more-than-quantum leap from the godly to the human, and from the logical and cynical to the joyous, cummings completes his poem with a strange and fascinating description of "MAN." Again he "curves" a straight line when he crooks that "compassionate digit." Now bestowed with "terrific" powers, the human being's slightest gesture becomes monumental, enlivening. The crooked finger replicates Einstein's theoretical curve, but it also suggests a welcoming signal, perhaps even an erotic come-on. After all, this (com)passionate digit elicits a "swoon." And the "quadruped" who is swooning must be another human. (We did once move on all four limbs.) Cummings has simply continued or extended Einstein's logic: if space is curved, then any projection into space must bend, spiral, even swirl rather than follow a straight trajectory, and any projection extended far enough, for long enough, may eventually arc back on itself, may meet its own prior position and condition. To look out into space is to look back in time. And so the curve begun in the poem's first line becomes longer, rounded, more extended, eventually turning back toward our own earlier selves. The curve, in fact, becomes a complete circle in the image of the "billiard-Balls." On the surface of, or within, such a sphere, a curving line can be infinite and yet contained within a finite space--an image that corresponds to physicists' estimations of the nature of our universe. By the end of the poem, cummings's tone has become playful, even exuberant, composed of a multiple capacity--to be both logically coherent and gladly creative, mixing science and love, reason and transcendence, relativity and billiards.

Einstein fused inexorably the concepts of space and time. In a similar way, a poet of cummings's skill can fuse content and form. Cummings is brilliant with technical matters, so it should not surprise to see how his "curving" of poetic form complements his notions of space/time curvature. A cursory glance at the poem on the page reveals his strategy. The poem seems to decay, at least to loosen, as it moves from its tight two first triplets, downward,
into shorter stanzas, broken lines, and an increasing chaos of letters, punctuation, and voices. It is as if cummings escalates the pressure on his lines as the poem proceeds, bending them more and more. If we recombine the poem, however, we can see that it is an example of cummings's favorite form: the sonnet. I do not use the term "favorite" lightly here. Cummings is often labeled a free-verse poet, and given his radical maneuvers with visual form, it is not hard to see why. But it is also reductive to call him that. Indeed, by my count, of the 775 poems in his 1972 Complete Poems, about 225 of them are sonnets. That's a third of all his poems, and many more are composed in other set forms and regularities. Even among the 195 uncollected poems that Firmage adds in the new Complete Poems, I found fifty-five more sonnets, some dating back to his earliest attempts at poetry.

Cummings matches his technique to his theme. What he does, of course, is to bend, or curve, the rules of the sonnet. Reconnected, there are fourteen complete lines in this poem, and while these lines are not metrical, they clearly echo their iambic lineage and are all within a step or two of being ten syllables long. Cummings also maintains the structural rhetoric of the sonnet. The critical, and isolated, ninth line with its central assertion (and fear) "god being Dead" completes the traditional rhetorical shift of the sonnet's first eight lines. This formal turn, or bend, moves the poem from its problem toward its solution, and is reinforced by the poem's conspicuous change of both attitude and subject in the final five lines, where cummings sings his complicated praise of humanity. He also maintains the rhetoric of a sonnet's final couplet--to summarize, to deploy the poem's lesson--here in the two-and-a-half lines after the colon, where he converts the turn into a complete "ball" or circle. Seriousness evolves into joy, history arcs back around, and the early doubt of the poem transforms into acceptance of the poem's earned truth. As I pointed out, the poem seems to loosen in shape as it proceeds, but the syntax itself actually becomes less fractured in the poem's second half, as if this ultimate realization--of human beatitude and vision--provides for the salvation of syntax and of meaning.

Cummings applies the convention of rhyme as delicately and as masterfully as he uses form. The severe enjambment of his line breaks (he uses six different parts of speech at the ends of these lines), his fondness for internal alliteration, and the ongoing challenge of his syntax and clarity, all deflect our attention from these constant, if irregular, rhymes. A reader may not even notice the rhymes at first, but they are reliable echoes; and the most thrilling of his rhymes is certainly the final "billiardBalls" which must be traced all the way back to the third line's straight "walls." Somehow, this long reach, this last sonic memory, suggests that even as it curves and expands, stretching each line, the universe of this poem still, and at last, coheres. Cummings shows us that science and poetry both depend on formal reasoning and faithful intuition; both are human creations, after all, two of our best attempts to understand the universe and our place in it. Abundance, contradiction, reason, joy, praise, despair, chaos, and form--cummings contains all of these in the bending, relative space of the sonnet.


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