5-1-1996

Announcement: 2nd European Congress of Mathematics

The linear momentum of a body is its mass times its velocity; and if one prolongs a straight line through the velocity vector of the comet, then one can find the minimum distance from this line to the sun. However, a comet will not hit the sun unless its momentum times this distance (the angular momentum) is sufficiently small. For simplicity, my poem makes (disguised) reference only to momentum, but the astronomical image yields the moral: like a comet, I lost the desired union by aiming not close enough — and by coming on too strong.

Two gravitating bodies circle an intermediate point, but if one body has negligible mass then the pivot is almost the center of the other; whence the sun is a "strong, unmoving light". Critics of Newton griped that the concept of gravitation just reduced planetary motion to a deeper mystery; whence that attraction, in my poem, becomes an "ascendance", i.e. a mystic power that "charms the planets" — whose "night" is the darkness of space.

Supposedly, a comet is a "dirty snowball", i.e., a mass of frozen water (and other stuff) surrounding a small, rocky core. As this body nears the sun, its rising surface temperature frees surface material, and the solar wind sweeps this away into the familiar tail. Hence "thaws" and "sublimes"; to "sublime" is to make a direct transition from solid to gas. Likewise, the comet's tail becomes "spirit", then "exhalation", then "aura", while clearly the sun's "aura" is its corona — a dim glow visible only when other light is excluded. Perihelion is the point of closest approach; even then the comet's lost material cannot touch the corona: ultimately, comet and sun cannot come close enough even to mingle their spirits. Thus the exclamatory lines 9 and 10 — evoking this closest approach and its human analogue — should be the poem's climax.

Another pun draws the moral. "Impulse" is the time integral of force, and a theorem of mechanics says that impulse = momentum. Too much impulse means too much momentum and just that behavior — coming on too strong — sends the comet back to outer space. The sun remains fixed while the comet retreats — necessarily keeping its face toward the sun because the solar wind blows its tail away from the sun. Far, far retreats the comet, past all the planets, into a dark void where the sun attracting it is only one more dim star in the black firmament.

Years later, I found almost the same image in Kenneth Rexroth's poem "Inversely, as the Square of Their Distances Apart". Once favored by his beloved but now estranged, Rexroth pictures himslf as a small, frozen outer planet moving slowly, yet still in distant orbit, about his personal Sun. Once again, the science becomes a metaphor that expresses the poet's loss.