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Lucretius on optical illusions

by A. E. Stallings

From "De rerum natura," book four

In the first century B.C., amidst the constant turmoil and upheaval of the late Roman Republic, a poet named Titus Lucretius Carus, about whom we know next to nothing, composed one of the unlikeliest masterpieces of Western literature: an epic-length didactic poem in Latin hexameters on atomic theory and Epicurean philosophy, known to us as *De Rerum Natura*, "On the Nature of Things." It probably seemed as curious then as now. Prose, not poetry, was the vehicle for philosophy in the first century, and Greek, not Latin, was its proper language. Epicurus himself would, in theory, have frowned on this mode for his gospel—he disapproved of poetry—but for Lucretius, poetry was the honey that helped the bitter (and salutary) medicine of philosophy go down.

Part of Lucretius's genius is his ability to demonstrate difficult abstract concepts with concrete, everyday examples. They are so brilliantly simple that they elicit recognition even at the distance of millennia. The constant, random movement of the atoms is fixed in our minds forever with the image of dust motes dancing in a sunbeam. That a limited range of kinds of atoms can nevertheless result in the universe's infinite variety is summed up in the metaphor of the alphabet, whose two dozen or so letters can produce every word in the language.

One of the tenets of Epicurean philosophy is that sensory perception of the physical world is the basis for all knowledge. If we do misread the signals that our senses send us, Lucretius reminds us, that is our misinterpretation of the raw data. Yet, typically, Lucretius treats us, in the following passage from book four, to a closely observed description of the illusions themselves. The tangents in his poetry can have the lyrical effect of extended simile in epic—taking us out of the dense argument of the poem into the physical world—pastoral scenes, domestic vignettes, urban snapshots. What a sweep of experience is offered the reader in these few lines—we find ourselves on a moored ship, on a horse crossing a river, we splash through city streets, wonder at the starry skies, eye perspective as a geometer or draftsman, roam the landscape of dreams. We are even invited to conduct a simple experiment. (You can indeed achieve double vision by pressing under

one eye—try it!)

How strangely familiar Late Republican Rome starts to seem. We have all had the experience in a stationary vehicle of feeling we are moving, or of seeing the firmament reflected in a puddle. If we don't remember ourselves spinning for the sheer dizzy joy of it, we have seen our twenty-first-century children do just that. We suddenly see Lucretius's world through our eyes. And we begin to see our own world—*affluenza*, greed, ambition, and anxiety are *so* first century—through his.

From "De rerum natura," book four

The scudding ship on which we sail seems to be standing fast,
While yet a craft at anchor will appear to sail on past.
And it is rather hills and fields that seem sternwards to fly
When really the ship is rowing, or under sail goes skimming by.
The stars all seem to be at rest, nailed in the vaults of heaven,
But are perpetually in motion, since once they have arisen,
Returning to their setting place, on far-flung paths they go
Across the sky from end to end, with bodies all aglow.
The sun and moon seem likewise to be frozen still, but prove
On observation, actually to both be on the move.
From far off, mountains jutting from the middle of the sea
With space enough between for fleets to pass through easily,
Seem nevertheless to be linked up into a single isle.
Dizzy children think the columns in a peristyle
Are going round, and that the entire court is in a spin
Once they themselves stop turning, so that they almost begin
To believe the house threatens to tumble in about their ears.
And then, when Nature first above the tops of mountains rears
The beaming sun, all red with flickering flames, the sun appears
To be so close it's singeing them with fire. Those mountains are
Perhaps two thousand arrow-shots away from us—not far—
Maybe even as close as a mere five hundred javelin-casts.
And yet between the mountains and the sun there lies a vast
Expanse of ocean strewn beneath the sweeping shores of heaven,
And also myriads of countries stretching in between
Peopled by the sundry tribes of animals and men.

And yet puddles of water that upon a paved street linger
Between the cobblestones, although no deeper than a finger,
Offer us a downward glimpse into the earth as deep
As the yawn of heaven overhead is towering and steep,

So that it seems you're peering down into the cloudy skies,
Or you behold a moon and stars—you can't believe your eyes—
Buried underneath the earth. Then, when a head-strong horse
Balks mid-river, and we look down into the rapid course
Of the current, though our mount does not budge, still it seems a force
Is sweeping his body sideways, swiftly shoving it upstream,
And wherever we cast our glance, every other thing will seem
To be borne along and rushing as ourselves, in the same way.

Next, take a colonnade, with rows in parallel array,
And all of the supporting columns standing at one height,
Yet when you view down its entire length, then in your sight
It seems little by little to taper to the narrowing point
Of a cone, so roof and ground, and left and right, completely join,
Until, in the vanishing vertex of the cone, they all converge.

To sailors at sea, the sun appears to rise up from the surge,
And to set into the waves again, and drown its light there under.
(But since all they behold is sky and ocean, then no wonder—
Don't be too quick to think their senses have been deeply shaken.)
Again, ships in a harbor seem to landlubbers—mistaken—
To be battling the waves, sterns crippled at the water line;
For whatever part of the oar lifts up above the dewy brine,
Is straight, and the rudders above the surface, also straight and sound,
But sunk beneath, they all seem broken back, and wrenched around
So that they are bent upwards, and seem practically to ride
Flat on the surface of the water. When winds at eventide
Harry racks of cloud, the sparkling star-signs seem to glide
Against the movement of the clouds, passing high above
Traveling counter to the way they actually move.

Then if you take your hand and press it underneath one eye,
You get a curious sensation; everything you spy
Now appears in double vision—double lamps abloom
With flames, twin sets of furniture arranged in every room.
People with two faces and with double bodies loom.
Further, when sleep has tightly bound our limbs in sweet repose,
And the whole frame lies in deepest peace, we nonetheless suppose
That we are wide awake, our limbs astir, and that our sight
Beholds the light of day there in the inky black of night.
We think we trade our ceiling for the sky, our cramped room yields

To rivers, mountains, sea, we seem to stride across the fields
And to hear voices, though the night holds everything spellbound
In its grave silence; we seem to speak, but do not make a sound.

And we encounter many other illusions of this ilk—
Amazing sights all striving, as it were, to cheat and bilk
The credulity of the senses; but all for naught, since the lion's share
Deceive because of notions that our own mind brings to bear
When it thinks it "sees" something that the senses did not view,
For nothing is more difficult than to distinguish what is true
From false interpretations which the mind applies on cue.

As for the fellow who asserts that "nothing can be known,"
He doesn't even know that fact, since he's the first to own
That he knows nothing! I won't debate a person who, instead
Of keeping two feet on the ground, is standing on his head.
Or if I grant he knows that much, I have questions in store:
For since he's never put faith in the sensory world before,
How does he even know what knowing is, or furthermore,
Not-knowing? What forms his notion of the false or of the true,
What evidence has proved the difference between the two?

A. E. Stallings has lived in Athens since 1999. Her new translation of Hesiod's *Works and Days* is just out from Penguin Classics.

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