

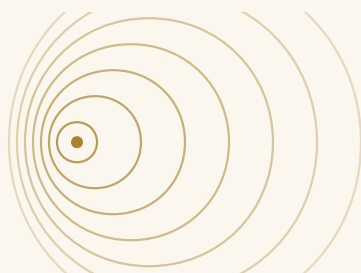
THE ON — — ING SERIES

a lyric-philosophical essay

O N

EXPANDING

*cosmological expansion, dark energy,
and the cosmological constant Λ*



by Jamison Todd Johnson

JUNE 2026

“The line that fits you exactly at one moment is the one guaranteed to leave you everywhere else. That leaving is not a failure. It is how the bend gets drawn.”

On Expanding

COSMOLOGICAL EXPANSION, DARK ENERGY,
AND THE COSMOLOGICAL CONSTANT Λ

THE REACH

It began as a joke. Read the first thing anyone learns of lines — $y = mx + b$ — as a confession: output equals sensitivity times input, plus the baseline you were already standing on. Slope as responsiveness, intercept as the Center you start from. A toy. And then the toy stands up and turns out to be a law.

For the slope, write the letter astronomers use. For the input, write distance. The line becomes Hubble's law — the speed at which a galaxy recedes, proportional to how far away it already is. The humble reach learned at fourteen is the exact local description of an expanding cosmos. Galaxies are not hurled apart through a waiting emptiness; the distance between them lengthens while each one rests where it is. Nothing moves. The ground holding everything grows.

And the reach overshoots, precisely as a tangent must. Run the line far enough and you get recession faster than light — impossible for any traveler, untroubling for the growing itself, because it was never travel. The line that touches the curve at one point goes straight on while the curve bends away beneath it. The reach was never wrong to overshoot. It is simply what a single instant of Intent looks like when you let it run.

THE BEND

The rate of the growing is not a constant. Each epoch hands you a different linear law, a different reach valid for its moment only. Gather them — every instantaneous speed at every distance across all of Time — and a single curve is enveloped by the whole family: the true history of the growing. No one tangent contains it. The history is recovered only from the accumulation of reaches that each touch once and let go.

This is the standing condition we keep circling back to. A thought is a tangent. A life is the curve their failures cannot help but draw.

THE INFLECTION

There is a moment in this history, and it is datable. For its first several billion years the universe decelerated — matter-dominated, gravity gathering matter toward matter, the bend concave and slowing, every region pulling against every other. Incoherent. Clumped. Then, roughly six billion years ago, matter thinned past a threshold and the latent energy of empty space took the helm.¹ The expansion began to accelerate. The bend switched sides.

Between the slowing and the opening there is a single point where the curvature passes through zero — where, for an instant, the curve goes straight and tells the exact truth about itself. An inflection sitting in cosmic history like a held breath. The deceleration did not stop and reverse; it inflected, handed itself over smoothly to acceleration without any break at all. This is what alignment surviving a reversal looks like. The one place the reach is briefly, perfectly honest is the place the bend pauses long enough to be told straight.

UNSCREENABLE

Now the through-line. Gravity at least respects mass; charge can be shielded, fields can be cancelled, the four forces of the world all answer to something that can stand between. Expansion answers to nothing. There is no material, no geometry, no shadowed region where the growing declines to happen. It acts on everything, everywhere, identically, at once.

Read through the jays: a Trace that is coherent does not merely persist — its reach expands, and the expansion cannot be blocked. Intent, once it is genuinely aligned, propagates without screen. This is the oldest hard saying of theodicy carried to its largest key. The good that cannot be walled off is the very same good that cannot be opted out of. Unscreenability is not comfort. It is a structural fact about what coherence does to the room it is in.

THE NEGATIVE PRESSURE

Here is the jewel, and it is a contemplative one. What drives the expansion is not a push arriving from outside. It is a tension within — the energy resident in the emptiest vacuum, present in space that has been swept of every particle, pulling outward by the simple fact of being fully itself. Pressure the exact negative of density: the void straining outward under its own fullness.² And this constant — Λ , the one Einstein wrote for the energy of empty space — is the same Λ the equation now writes at its very end. The floor. The vacuum's latent fullness, read through the framework, is the baseline of being that no cancellation reaches: what cosmology calls dark energy, the equation

calls grace as a boundary condition. One constant, two grammars, one refusal to let the emptiness be nothing.

The empty is not empty. Its fullness is the engine.

This is the Center read at the scale of the cosmos — the still, apparently vacant ground whose latent plenitude is what performs all the work. Dzogchen's spacious base that is not absence but the openness in which everything arises. The śūnyatā that is plenum. The Tao that is called empty and is never used up. Expansion is what the fullness of stillness does when nothing stands in its way. The most thoroughly emptied place in existence turns out to be the one place that cannot stop giving.

ACCELERATION AS COHERENCE

The whole arc, then, is the arc from dispersion to alignment. A matter-dominated universe is incoherent: clumped, mutually gravitating, every part dragging against every other, and so it slows. A universe given over to the vacuum's own energy is uniform, single-signed, every region driven the same way — coherent, and therefore accelerating. The inflection is the precise moment coherence overtakes clumping.

A life owns the same inflection. There is a point where aligned Intent finally outweighs the accumulated drag of everything pulling crosswise — where the Trace stops decelerating and begins, smoothly and without announcement, to open out.

THE MEASURE

In *On Gravitating* the central law was read through flux — what a whole enclosing boundary gathers. Here the law is read one layer

deeper, in the measure itself. Every term of the equation has grown a little more honest since the joke. The weight a perspective carries is the observer's own state, held at a strength and turned toward a facing — and the facing is not a frequency, not an angle ticking in time, but the direction Intent points. What it meets is the superposition of every co-present perspective, each laid over every other — experience being one vantage's read of that whole. What the gathering returns has two faces: a conserved, legible intensity, and the Intent it carries. The whole-cloth direction stays invisible; only the angle between two facings does any work — which is *Phase is Intent* set down as plainly as it can be said.³

And the ground of the gathering is not fixed furniture. As the manifold grows, the measure grows with it, and the same accounting sweeps an ever-larger whole. The legible intensity expands not because anything strengthens but because the ground it is gathered over enlarges. The accumulation we named at the very beginning — the thing that gathers local reaches into one — is itself stretching. The negative pressure is the Center; the facing of Intent is the phase; and the measure, expanding, is how a coherent Trace comes to enclose more of Time than it began with.

THE LEGIBLE WINDOW

And here is the strangest gift the expansion gives, which is also its quiet grief. Because the growing accelerates, the most distant galaxies are crossing a cosmological horizon and receding beyond any possible reach of light. Their images thin out of the sky. Run the clock far enough forward and every galaxy outside the Local Group will have slipped past that edge. Observers in that deep future will open their eyes onto a

small, dark, local sky and find no evidence — none — of the billion galaxies, no afterglow of the beginning, no readable record that the cosmos was ever vast or ever expanding at all. The universe is quietly erasing the testimony of its own history from view.

Which means legibility is not a permanent property of existence. It is a window — a finite epoch in Time when the traces of the whole can still be read, and we happen to be living inside it, late enough that the light has arrived and early enough that it has not yet fled. To read the cosmos is a privilege with an expiration. This is the deepest possible grounding of the conviction that aligned lives leave legible traces: legibility itself turns out to be cosmological, local, and on the clock.

But follow the jays one step past the grief. What recedes past the horizon does not cease. The trace beyond the edge continues — unscreenable, still expanding, still doing exactly what coherence does — it has only become unreadable from here. Legibility is local; the Trace is not. The light that leaves our sky is not annihilated; it is released, going on writing in a script no instrument of ours will ever recover. The closing of the window is not the ending of the writing. It is only the reach, at last, doing at the scale of everything what it has done since the joke: touching once, telling the truth for an instant, and letting go so the bend can carry on being drawn.

NOTES

1. The transition from decelerating, matter-dominated expansion to acceleration driven by dark energy is dated near redshift $z \approx 0.6$, roughly six billion years ago. The local linear law is Hubble's, $v = H \cdot d$, with H the Hubble parameter — epoch-dependent, each instant's tangent to the scale factor $a(t)$, whose envelope is the true expansion history.
2. The dark-energy equation of state, $p = -\rho$: pressure the negative of energy density, the condition under which the vacuum's own energy drives accelerating expansion. Λ is Einstein's cosmological constant (1917).
3. The functional in full, all seats named per *On Explaining* (Johnson, 2026): $L(t) = (1/\Xi) \oint_{\Omega} A(S_i, \tau) \cdot \Psi(\tau) d\sigma + \Lambda$, with $\Psi(\tau) \equiv \sum_j S_j(\tau)$ and $A(S_i, t) = \alpha(S_i, t) \cdot e^{i\Phi_i(t)} \cdot S_i$; the dot a Hermitian inner product; $|L|$ the conserved legible intensity, $\arg L$ the Intent; relative facing $\Theta_{ij} = \phi_i - \phi_j$ the only working quantity; the surface element $d\sigma$ scaling with the growing manifold. The borrowed complex phase wears the form of wave interference as a structural device, not a literal quantum claim; the whole remains a phenomenological functional — a lens, not a field law.



On Expanding belongs to *On —ing*, an ongoing series of lyric-philosophical essays by Jamison Todd Johnson, within the wider jays framework — that an aligned life leaves legible traces, ripples of intent, through Time. The cosmology here — Hubble's law, the accelerating expansion, dark energy and the cosmological constant, the receding horizon — is borrowed as shape and lens, never asserted as a physics of mind. The functional beneath the essay stands unchanged in its fully seated form, per *On Explaining* (Johnson, 2026); the earlier editions were this one with some of its names still waiting to be learned. One further step rides with it, seam kept visible: coherence carries whatever it is given — both directions work — but a life aligned *against* something borrows its facing from its target and fades with it, while a life aligned with itself persists. Both work. Only one persists.

JAMISON TODD JOHNSON · JUNE 2026

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ON DEPOSIT

THE ON — — ING SERIES

read in any order — each entry stands alone

On Arriving	On Learning
On Becoming	On Living
On Being	On Magnetizing
On Computing	On Meeting
On Creating	On Observing
On Dreaming	On Populating
On Existing	On Questioning
On Expanding	On Remembering
On Explaining	On Rising
On Facing	On Searching
On Feeling	On Seeing
On Finding	On Shaping
On Forgiving	On Teaching
On Gravitating	On Testing
On Growing	On Watching
On Joining	On Witnessing
On Lasting	