

A Walk You've Never Taken

BEFORE YOU START

Sometimes when physicists say reality is stranger than our everyday model, people get weird. They think of the Matrix. They wonder if things are "real." Stop. Reality is reality. It's not a simulation. It just might be weirder than what we've casually assumed. Don't question reality. Go deeper into it. Don't be what I call a "reality weirdo." Be a reality explorer.

TWELVE THINGS ACTUALLY HAPPENING TO YOU RIGHT NOW

ONE

You Are Falling Right Now

FEEL YOUR NEXT STEP.

That forward lurch past the point of balance — that's a fall. Your other foot catches you. Then you fall again. Walking is **serial falling**, twice per second, perfectly controlled. You are not strolling. You are falling and choosing where to land.

TWO

You Have Never Touched the Ground

FEEL THE PAVEMENT THROUGH YOUR SHOES.

Your atoms and the ground's atoms have never made contact. What you feel is **electromagnetic repulsion** — electron clouds refusing to merge, separated by one angstrom. You have been hovering your entire life.

THREE

That Tree Ate Light and Became Solid

LOOK AT ANY TREE.

Every branch, every leaf — assembled from air and sunlight. The carbon was CO₂ in the atmosphere. **25 kilobytes** of genetic instructions directed the conversion of gas and photons into tons of solid structure. That tree is an information engine running in front of you.

FOUR

That Sound Just Physically Touched You

LISTEN FOR ANY SOUND — A BIRD, WIND, A CAR.

Something vibrated. Air molecules pushed other air molecules. A pressure wave traveled across space and **struck your eardrum**, displacing it by about twelve nanometers — the width of a DNA helix. That bird didn't sing to you. It touched you.

FIVE

You Are Glowing

HOLD OUT YOUR HAND.

Your body is emitting **870 watts** of infrared radiation right now. In a thermal camera, you are blazing — brighter than a lamp. You are not just a receiver of light. You are a light source. You have been broadcasting since birth.

SIX

You Are Almost Entirely Nothing

LOOK AT YOUR HAND.

Your atoms are **99.9999999999999%** empty space. Compress just the nuclear matter and your entire body fits in a cube seven micrometers wide — smaller than a hair. Everything you see is a vast architecture of nothing, held in shape by forces.

SEVEN

A Quadrillion Things Just Passed Through You

KEEP WALKING.

Right now, roughly **10^{15} neutrinos per second** from the sun are passing through your body, interacting with nothing. To them, you are empty space. "Solid" is a local opinion. Most of the universe doesn't notice you're here.

EIGHT

Your Head Is Older Than Your Feet

STAND STILL FOR A MOMENT.

Your head is farther from Earth's center, so it sits in a weaker gravitational field. Clocks tick faster there. This is **measured** — confirmed with atomic clocks at just 33 centimeters of height difference. Over a lifetime, your head ages 468 nanoseconds more than your feet. You contain multiple rates of time.

NINE

You Are Moving at Half a Million Miles Per Hour

FEEL THE STILLNESS.

Earth's rotation: 900 mph. Orbit around the sun: 67,000 mph. Solar system around the galaxy: **514,000 mph**. You don't feel it because everything around you is flying too. Stillness is shared velocity.

TEN

You Are Made of Explosions

TOUCH YOUR ARM.

The iron in your blood was forged inside a dying star. The calcium in your bones came from a different explosion. **93% of your body mass** was manufactured in stars that died before our sun existed. You are not in the cosmos. You are the cosmos, rearranged.

You Just Inhaled 10^{22} Molecules

TAKE ONE BREATH.

12,500,000,000,000,000,000,000 molecules just entered your lungs. For a few seconds, they're you. Then you exhale them. You are not a fixed thing. You are a river of matter flowing through a pattern. The pattern stays. The matter doesn't.

Information Built Everything You See

LOOK AROUND.

Every human-made thing on this walk — the sidewalk, the houses, the power lines — required information to exist. A blueprint. A design. A plan. The energy cost of that specification is measurable, and it is vastly less than the energy locked in the bonds of the thing it organized. The ratio is **239 to 1** at the chemical bond level — and reaches 10^{20} at the theoretical limit. Knowing where to put an atom is almost incomprehensibly cheaper than holding it there. This is what we do. We use the cheap thing — information — to protect the expensive thing — the physical world. That's the mountain. Every walk like this gets us closer to the top.

*Walk slow. Look close. Think deep.
Then come build.*

— Jed