

# SPRINGS

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## HOW WE GOT HERE

*Rowan Deer*

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## Rowan Deer

Perhaps all I'm good for, at my age, is telling stories. I've told many in my time, long and textured and short and cryptic, some that tuck themselves gently around you like a blanket, some that rip at your insides, some that meander like deep, old rivers, and some that get straight to the point, quick as a poison dart. I began telling stories before there was anyone to listen, and I will go on telling stories long after there's no one left to hear. Some ask whether it makes me sad—to be bound to go on speaking into the endless dark. But there's no sadness in the light of stars that shine unseen, no lament in the sound of a lonely tree's fall. There is no melancholy on the dark side of the moon, no grief beyond the grave. Yet those old bones hold their stories—just in case.



Carina Nebula. Photo by [NASA Hubble Space Telescope](#). [Unsplash](#).

Now this is the story of some clever beasts who forgot where they came from, or at least it seemed they did not remember to remember it. But how on earth did they get into such a pickle? Let us begin at the beginning.

In the time before time, there was nothing, and then everything changed, and there was something. This was the first thing and the first inexplicable thing. There was suddenly something and that something was nothing like the things you know, and yet was precisely *all* the things you know (and all those you don't): all the matter of the universe, the Amazon Rainforest and the Andromeda Galaxy, the *Psilocybe zapotecorum* and the constellations of the zodiac, your morning coffee and the crust you absentmindedly pick out of the corner of your eye, all of it compressed into a hot, thick clod a billionth the size of a nuclear particle, smoother, denser, and hotter than anything since. It was an extremely, unimaginably, infinitesimally *small* bang, despite what they tell you at school. But as soon as it was, it was growing: stretching space and time and forces into existence, energy cascading into a mist of particles that had oh such a future before them, that had the future before them. Three quarks and then some. Four inexplicable forces before breakfast. And the mist had little ripples in it, slight quantum swerves that rucked the fabric of reality into patches of densities and thinnings, negligible at first, imperceptible certainly, but a seed of divergence had been sown. Suddenly *here* could be differentiated from *there*, *now* from *then*, duration and location tumbling into being so that nothing would ever be the same again. Difference was the origin. Here a few more particles; there a few less. Here a splodge more gravity; there a jot less. Possessed by a strange primal inclination, particles began to gravitate—they couldn't themselves explain why—towards those dense patches, so that things became

rather clumpy, like a duvet cover full of balled socks or a hot, bright, inhospitable soup—with dumplings.

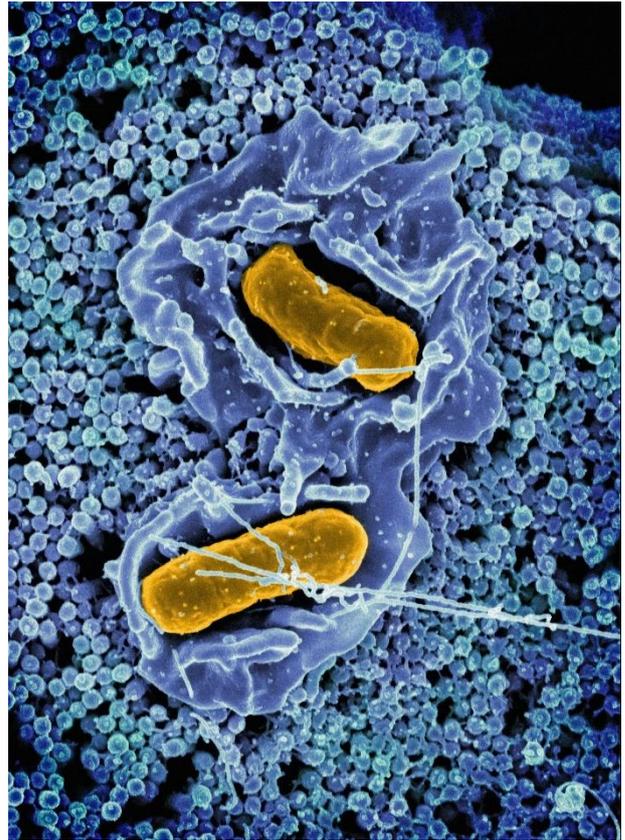
As the soup expanded, it cooled and became dark. In the beginning there was light and then it got dark again, but the bible doesn't tell you that, because the bible does linearity not cycles. Only after a very long dark time did light return: after about one hundred fifty million years, the cosmic dumplings had become massive enough and dense enough that the nuclei of particles started to smooch together, igniting matter back into energy. Stars sparked new light into the darkness, light that would reach for your eyes across the aeons. (They did not and could not know whose eyes, if any, would ever receive their messages, but they sent them anyway. That's the way it is with writing, too, you know. I don't know whether you even exist.) Clumps followed clumps, and stars accumulated into clusters, clusters into galaxies. Each star gathered armfuls of planets into her orbit, like a caring mother duck who would later explode and swallow all her young in a giant fireball.

Then: nine billion years after the beginning—four-and-a-half-ish billion years before you, dear reader, would open your eyes for the very first or last time—there were another couple of bangs in the general patch of the universe you call home. These supernovae scattered carbon and iron and silicon and magnesium, turning a nondescript corner of a nondescript galaxy into a rather more potentially habitable—and therefore also potentially describable—place (in the beginning there was the word, but before the word came consciousness, and before that life, and before that the solar system, and before that the molecular cloud from which it formed, and before that the seed supernovae, and before that the universe itself, and whatever happened before that if anything happened before that; no one is really sure, a fact that makes the whole thing extremely interesting, though teachers have a habit of focusing on the bits we do know, which rather, it might be said, disenchant the whole affair).

The explosions made a bit of a mess—dust everywhere like you wouldn't believe—and shock waves compressed the debris into a patchy spinning disc. Because of the gravity of the situation, there was more dust in the middle and less round the edges, and the patches got clumpier and dumplingier until they became planetesimals—which, despite what they sound like, were not infinitesimal: they were already ten kilometres or so across, which is much bigger than where the Little Prince lived. (Incidentally, the planet that the Little Prince lives on is not very scientifically accurate. A hunk of rock that is "scarcely any larger than a house" wouldn't generate enough gravity to compress itself into a spheroid, and so the Little Prince's planet would, in fact, be rather more lumpen and irregular like a boulder or a potato. But, then again, the Little Prince and his planet are not in fact in fact, they are in fact in fiction, so as long as we can presume to make such a distinction, we need not worry too much about such trifling inconsistencies.)

But we are getting ahead of ourselves. In the time of the planetesimals there was no Little Prince, no Antoine de Saint-Exupéry, and, perhaps most distressing of all, no potatoes. But they were all already on their way, already a pro-verbial twinkle in the eye of a carbon atom. A carbon atom, that was, you remember, still minding its business whirling about in a spinning disc of dust. Now by this point, the middle of the spinning dust disc was thicker than the outside bits, which is to say it was getting sunnier and sunnier there, until at last it begot sun: all the hydrogen atoms in the middle of the solar nebula started smooching themselves together to form helium, and radiating a whole load of energy in the process—including that which you got from your porridge this morning, and that which Homer and

Shakespeare and Maya Angelou and Phillis Wheatley and Emily Dickinson and Rachel Carson got from their porridge not just one morning but every morning, and not just their porridge or breakfast carbon-hydrate of choice, but everything they ever ate, and not just everything they ever ate, but nearly everything everyone ever ate right from your great-great-great prokaryote grandmother who chomped down on the first breakfast three-point-five billion years ago—as far as we know breaking the universe’s eleven-billion-year fast, so she must have been hungry—to the stromatolites and the *Dickinsonia* to the trilobites and the brachiopods and the corals and molluscs and cephalopods, the ferns and the rushes and the reptiles and the crustaceans and the fishes and the birds and the cycads and the angiosperms and the sharks and the turtles and the Proboscideans and the hominids and the house cats. And not just the energy in all things that were ever eaten or ate but also all of the fossilised energy that certain clever beasts use to make things faster or hotter or lighter, like trains and planes and radiators and computer screens. All that energy from the one sun, and she ain’t done yet. Go on, my sun!



Scanning electron micrograph of *Salmonella Typhimurium* invading a human epithelial cell. Photo by National Institute of Allergy and Infectious Diseases (NIAID), US. [Unsplash](#). [Public domain](#).

But we are again getting ahead of ourselves. At the time of the formation of the sun there were no breakfasts and no stomachs and no so-called low-cost airlines, but there was energy, so much energy, pouring out in fierce waves of heat and light. And all the while the planetesimals were still circling round, occasionally crashing and combining into one another, becoming ever lessesimal, ever more planetary proper, until there were eight or nine proper planets (depending on when you went to school), one-hundred-and-forty-six moons—which is rather a lot of capacity to enamour, to mortify, to render insane, and all the rest of it—and lots of bits of comet rock and other cosmic rubble.

And so it went. Sun shone radiantly, and twirled and spun, and the planets twirled and spun and waltzed about, and besides the odd minor collision or Late Heavy Bombardment, everything orbited along quite nicely for ages and aeons. But, unbeknownst to sun, one planet was begetting ideas. Drunk on the water it had sluiced over its surface, your rascally Earth did the next inexplicable thing, and stirred rock into life. The story gets a little murky round this time, truth be told, but at some point, perhaps down by the deep-sea hydrothermal vents, a living thing emerged in the darkness, and the rest, as they say, is evolutionary history.

Time passes. After around five hundred million years those hungry marine prokaryotes invented the first alchemy: turning sunlight into sugar. But, as their great-great-great-great-great-great<sup>1</sup> grandchildren would later also discover, there’s no such thing as a free lunch. These photosynthetic microfactories produced a toxic byproduct: oxygen. The more sugar these little protocritters made, the more they reproduced, and the more they reproduced, the more oxygen they pumped out, until the newly oxygen-rich atmosphere resulted in the extinction of many of the anaerobic species who had themselves, albeit unintentionally, engineered it. But, you know what they say: one microbe’s noxious gas is another microbe’s lifeblood. And so dawned the age of the eukaryotes. Nuclei, organelles, and mitochondria arrived on the scene—making multicellular life possible—and began a dance so intricate that you’d be forgiven for thinking it choreographed (it is not).

And so there was eating and fucking, fighting and flying, there was cooperation and mutual back-

scratching before there were even backs to scratch. And, as before so again, difference—imperfect replication—was at every origin, allowing species to become shape-shifters, turning fins into feet and reproductive instinct into romantic desire.

It's hard to ascertain when precisely the next inexplicable thing happened, but at some point between single-celled organisms and the orange-chinned parakeet, between the archaea and your great uncle Andy, life became conscious and began to have experiences of the world. And what experiences! There were beasts that conquered gravity to soar through the sky, others that could see through their ears in the dark, and some that coordinated their tiny bodies into complex colonies that acted as one. Noticing all this, one set of beasts invented storytelling, so that they too could take flights of fancy through the mind's sky, could see whole worlds through their ears in the dark, and could spin tales that would unify and motivate many individuals to act together. But the beasts didn't realise that just as they were inventing stories, the stories were also inventing them.

For a time—let's call it the Holocene—the beasts lived in the glittering worlds of their stories and did not notice that anything was awry. They built civilisations on these stories, they fought wars and made laws based on these stories, and many forgot that the stories were stories at all. Many forgot, too, everything I've just told you, the accumulative chain of chancy miracles that conspired to make the clever beasts and their stories possible in the first place. Meanwhile, Earth receded gently into the background, as if its rhythms were as regular and stable as a metronome, simply keeping time as the beasts played on. But the planet was a sleeping giant and the constant scratching at its skin began to wrench it back into wakefulness. At first, the beasts wondered at Earth's quaking, as if it had no cause. As if the invisible things didn't accumulate heavy in the air, or as if the past had passed entirely away.

Slowly—all too slowly—the beasts came to realise that they had a problem. Or, rather, a multitude of interconnected and accumulating problems. The problems themselves began to sketch out a story, and it was one that many of the clever beasts did not want to hear. It said that there was something fundamentally wrong with how the beasts had been living. It said that, no matter what they believed, control was only ever temporary and partial. That a common side effect of cleverness was severe myopia. It said that knowledge and wisdom live in different places, live entirely different lives. That rationality and logic are never immune from the undercurrent of irrational forces. That beasts, no matter how clever, still need to eat.

Of course there were some clever beasts that had always known these things, that had never lost their hold on the vastnesses at play, that had never forgotten where they came from. But those beasts were ignored or mocked by those who held power, even as their truth became impossible to tune out.

Now if this was a fable or a Disneyfied fairy tale, the beasts would learn from their mistakes and live happily ever after upon Earth (though of course there's in fact no ever after, happily or otherwise, in a universe ruled by entropy). But things are looking a little more Grimm than that. I don't even know if anyone is listening anymore. Perhaps you think all this is just another old wives' tale. Well, I am a very old wife, I suppose. But this is not my tale, it's yours. And it's a tale that will go on telling itself even when there are no more clever beasts to hear it.

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## Notes

<sup>1</sup> There should actually be around nine trillion "greats" here, but you, dear reader, will not have time for that.



**Rowan Deer** is a writer and editor based in Berlin. Her academic monograph, *Radical Animism: Reading for the End of the World*, is published by Bloomsbury, and her writing can also be found in *Orion Magazine*, *The New Statesman*, and *The Canary*.



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