When Physics And Fairy Tales Collide

Mslexia Salon , May 18 2026

Tania Hershman
www.taniahershman.com

Highly Irregular monthly writing newsletter &
Unbox Your Words Zoom workshops & monthly writing prompts:
https://taniahershman.substack.com/

Fields of physics

- **Acoustics**: The study of sound and sound waves. In this field, you study mechanical waves in gases, liquids, and solids. Acoustics includes applications for seismic waves, shock and vibration, noise, music, communication, hearing, underwater sound, and atmospheric sound. In this way, it encompasses earth sciences, life sciences, engineering, and the arts.
- **Astronomy**: The study of space, including the planets, stars, galaxies, deep space, and the universe. Astronomy is one of the oldest sciences, using mathematics, physics, and chemistry to understand everything outside of the Earth's atmosphere.
- **Electromagnetism**: The study of electrical and magnetic fields, which are two aspects of the same phenomenon.
- **Electronics**: The study of the flow of electrons, generally in a circuit.
- **Fluid Dynamics / Fluid Mechanics**: The study of the physical properties of "fluids," specifically defined in this case to be liquids and gases.
- **Geophysics**: The study of the physical properties of the Earth.
- **Mechanics**: The study of the motion of bodies in a frame of reference.
- **Meteorology / Weather Physics**: The physics of the weather.
- **Optics / Light Physics**
- **Astrophysics**: The study of the physical properties of objects in space. Today, astrophysics is often used interchangeably with astronomy and many astronomers have physics degrees.
- **Atomic Physics:** The study of atoms, specifically the electron properties of the atom, as distinct from nuclear physics which considers the nucleus alone. In practice, research groups usually study atomic, molecular, and optical physics.
- **Biophysics**: The study of physics in living systems at all levels, from individual cells and microbes to animals, plants, and entire ecosystems. Biophysics overlaps with biochemistry, nanotechnology, and bio-engineering, such as the derivation of the structure of DNA from X-ray crystallography. Topics can include bio-electronics, nano-medicine, quantum biology, structural biology, enzyme kinetics, electrical conduction in neurons, radiology, and microscopy.
- **Chaos**: The study of systems with a strong sensitivity to initial conditions, so a slight change at the beginning quickly become major changes in the system. Chaos theory is an element of quantum physics and useful in celestial mechanics.
- **Cosmology**: The study of the universe as a whole, including its origins and evolution, including the Big Bang and how the universe will continue to change.
- **Cryophysics / Cryogenics /Low-Temperature Physics:** The study of physical properties in low-temperature situations, far below the freezing point of water.
- **Crystallography**: The study of crystals and crystalline structures.
- **Nanotechnology**: the science of building circuits and machines from single molecules and atoms.
- **Nuclear Physics**: The study of the physical properties of the atomic nucleus.
- **Particle Physics:** The study of fundamental particles and the forces of their interaction.
- **Quantum Mechanics / Quantum Physics:** The study of science where the smallest discrete values, or quanta, of matter and energy become relevant.
- **Relativity**: The study of systems displaying the properties of Einstein's theory of relativity, which generally involves moving at speeds very close to the speed of light.
- **String Theory / Superstring Theory:** The study of the theory that all fundamental particles are vibrations of one-dimensional strings of energy, in a higher-dimensional universe.

A few of Einstein's thought experiments

1. Imagine you're chasing a beam of a light.

This is something Einstein started thinking about when he was just 16 years old. What would happen if you chased a beam of light as it moved through space? If you could somehow catch up to the light, Einstein reasoned, you would be able to observe the light frozen in space. But light can't be frozen in space, otherwise it would cease to be light. Eventually Einstein realized that light cannot be slowed down and must always be moving away from him at the speed of light. Therefore something else had to change. Einstein eventually realized that time itself had to change, which laid the groundwork for his special theory of relativity.

2. Imagine you're standing on a train.

Imagine you're standing on a train while your friend is standing outside the train, watching it pass by. If lightning struck on both ends of the train, your friend would see both bolts of lightning strike at the same time. But on the train, you are closer to the bolt of lightning that the train is moving toward. So you see this lightning first because the light has a shorter distance to travel. This thought experiment showed that time moves differently for someone moving than for someone standing still, cementing Einstein's belief that time and space are relative and simultaneity doesn't exist. This is a cornerstone in Einstein's special theory of relativity.

3. Imagine you have a twin in a rocket ship.

This thought experiment is a well-known variation of Einstein's light-clock thought experiment, which has to do with the passage of time. Let's say you have a twin, born at almost the exact same time as you. But the moment your twin is born, he or she gets placed in a spaceship and launched into space to travel through the universe at nearly the speed of light. According to Einstein's special theory of relativity, you and your twin would age differently. Since time moves slower the closer that you get to the speed of light, your twin would age more slowly. When the spaceship lands back on Earth, you might be trying to sort out your retirement, while your twin is just trying to get through puberty.

4. Imagine you're tossing a two-sided coin.

Einstein wasn't the biggest cheerleader for quantum theory. In fact, he was always coming up with thought experiments to try to disprove it. But it was these thought experiments that challenged the pioneers of quantum theory to perfect it down to its finest details. One of Einstein's thought experiments had to do with quantum entanglement, which Einstein liked to call "spooky action at a distance." Imagine you have a two-sided coin that can easily be split in half. You flip the coin and, without looking, hand one side to your friend and keep the other side for yourself. Then your friend gets on a rocket ship and travels across the universe. Then you look at your coin. You see that in your hand you're holding the heads side of the coin and instantaneously you know that your friend, who is billions of light years away from you at this point, is holding the tails side.

If you think of the sides of these coins as indeterminate, changing back and forth between heads and tails until the point in time that you look at one, then the coins can circumvent the speed of light, instantaneously affecting each other regardless of how many light years separate them.

Explaining Relativity

by Rebecca Elson (Canadian astronomer and poet)

(Reprinted in *I Am Because You Are*)

Forget the clatter of ballistics,
The monologue of falling stones,
The sharp vectors
And the stiff numbered grids

It's so much more a thing of pliancy, persuasion,
Where space might cup itself around a planet
Like your palm around a stone,

Where you, yourself the planet,
Caught up in some geodesic dream,
Might wake to feel it enfolding your weight
And know there is, in fact, no falling.

Quotes from Einstein's Dreams, by Alan Lightman (1993):

"Suppose time is a circle, bending back on itself. The world repeats itself, precisely, endlessly. For the most part, people do not know they will live their lives over. Traders do not know they will make the same bargain again and again. Politicians do not know that they will shout from the same lectern and infinite number of times in the cycles of time…"

"In this world, there are two times. There is mechanical time and there is body time. The first is as rigid and metallic as a massive pendulum of iron that swings back and forth, back and forth, back and forth. The second squirms and wriggles like a bluefish in a bay…."

"Hypothetically, time might be smooth or rough, prickly or silky, hard or soft. But in this world, the texture of time happens to be sticky. Portions of towns become stuck in some moment in history and do not get out. So, too, some people become stuck at some point in their lives and do not get free."

"In a world where time is a sense, like sight or like taste, a sequence of episodes may be quick or may be slow, dim or intense, salty or sweet, causal or without cause, orderly or random, depending on the prior history of the viewer. Philosophers sit in cafes on Amthausgasse and argue whether time really exists outside human perception. Who can say if an event happens fast or slow, causally or without cause, in the past or the future? Who can say if events happen at all. The philosophers sit with half-opened eyes and compare their aesthetics of time."

MARIA GOEPPERT MAYER

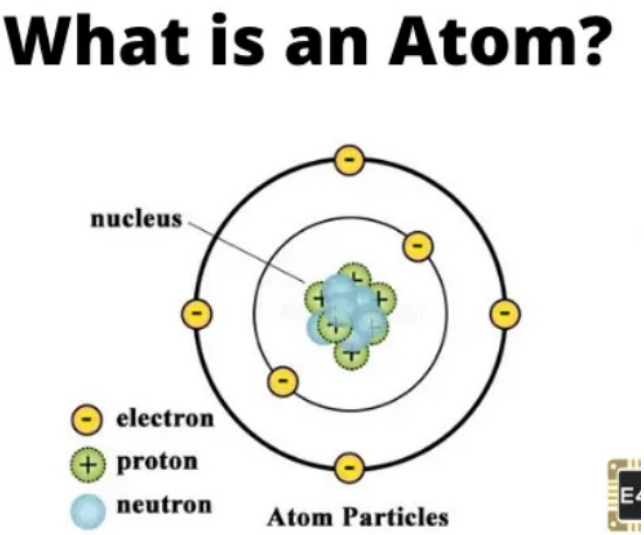
1906–1972

UChicago instructor, developed the nuclear shell model as a senior physicist at Argonne and became the second woman to win the Nobel Prize in Physics

Photo Source: University of Chicago Photographic Archive, [apf1-10468], Hanna Holborn Gray Special Collections Research Center, University of Chicago Library.

Nobel laureate in physics Maria Goeppert Mayer is famous for originating the shell model of nuclear physics, which provides a natural explanation for many observed nuclear properties.

She studied in Göttingen with Max Born in the late 1920's when quantum mechanics was first emerging and became an expert in quantum chemistry. After



From **On This Day She (2021):**

In April 1950, German physicist Maria Goeppert Mayer published her revolutionary model of how the nucleus, the heart of every atom, is structured in layers or shells. Nicknamed the "Onion Madonna", she became the second woman to win a Nobel Prize in Physics for her discovery - which she did without a permanent scientific job.

Mayer and her husband, Joseph, a chemist, moved to the US in the 1930s. Johns Hopkins University gave him a job, but refused to hire her - or even give her an office - although she had a physics PhD, so she did research as a "volunteer associate".
According to a short biography written at the time of her prize*, "no university would think of employing the wife of a professor." Another sign of the times: the archive has a 1941 typed letter informing Mayer that she was elected as a fellow of the American Physical Society—addressed "Dear Sir."*

She became so highly thought of that, when World War II began, she was invited to join the Manhattan Project to work on the atomic bomb, but nevertheless, when the couple moved to Chicago in 1946, she could only find a part-time paid position as a senior physicist.

During her time at Chicago and Argonne in the late 1940s, Goeppert-Mayer developed a mathematical model for the structure of nuclear shells, which she published in 1950.

She had realised that the nucleus is a series of closed shells and pairs of neutrons and protons tend to couple together. She described the idea as follows:

> **Think of a room full of waltzers. Suppose they go round the room in circles, each circle enclosed within another. Then imagine that in each circle, you can fit twice as many dancers by having one pair go clockwise and another pair go counterclockwise. Then add one more variation; all the dancers are spinning twirling round and round like tops as they circle the room, each pair both twirling and circling. But only some of those that go counterclockwise are twirling counterclockwise. The others are twirling clockwise while circling counterclockwise. The same is true of those that are dancing around clockwise: some twirl clockwise, others twirl counterclockwise.**

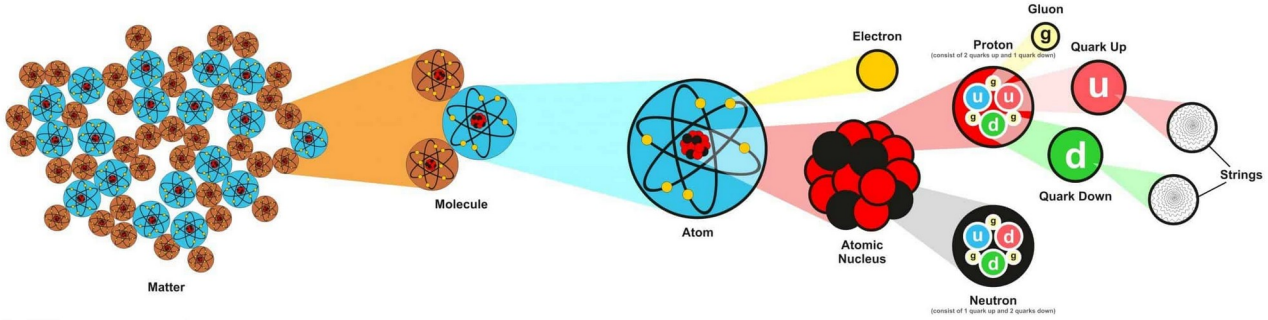
Mayer realized an atom with completely full proton shells has a "magic number" of protons; one with full neutron shells has a "magic number" of neutrons, and if both types of shells are full—as is the case with oxygen 16 and calcium 40, for example—the nucleus is "doubly magic."

Mayer finally received the title of full professor from U.C. San Diego, and began teaching there in 1960, just three years before her big award.

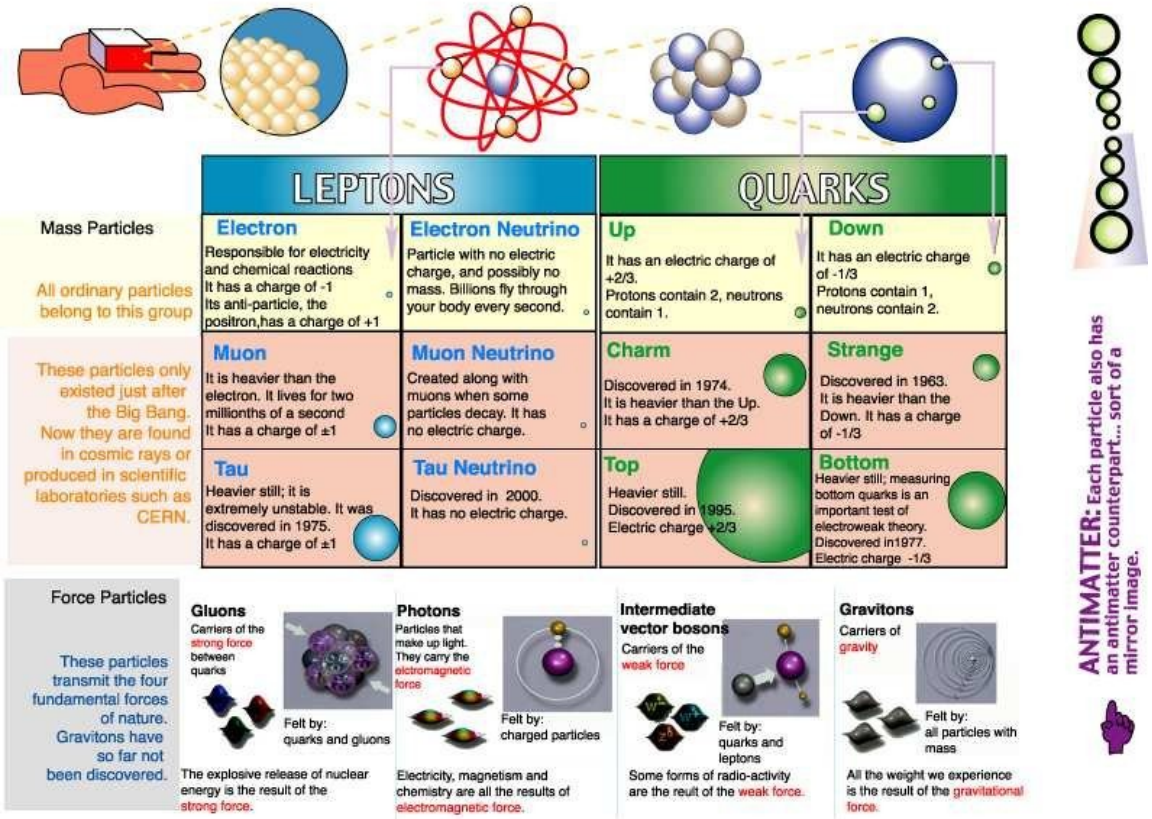
The shell model is also informing cutting-edge research into exotic particles. The existence of the long-sought tetraneutron, a system of four neutrons, was hinted at by a French-led group in the early 2000s, and further corroborated in 2016 via an experiment at the RIKEN Radioactive Ion Beam Factory in Japan.

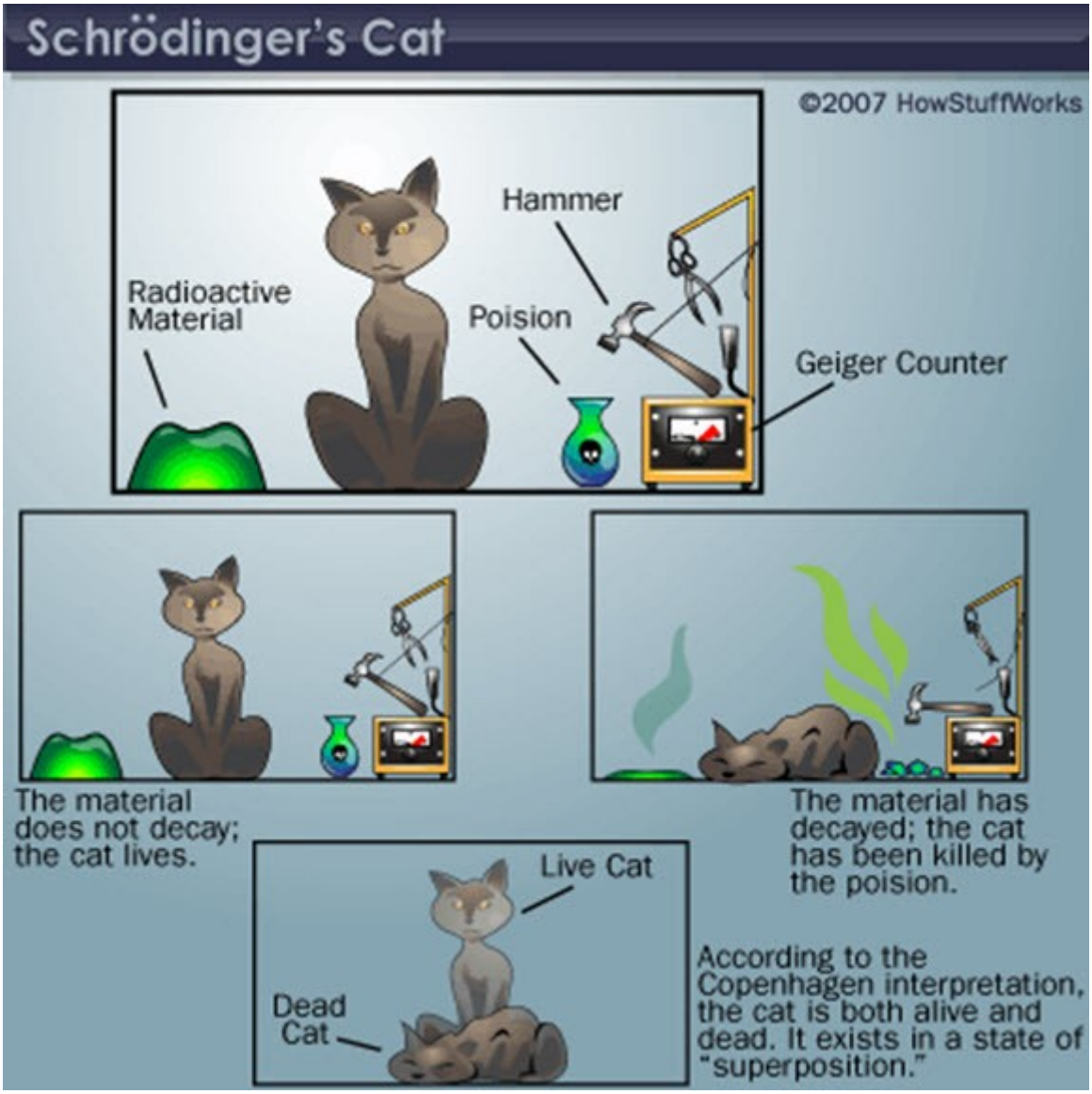
Particles

From Tania's PhD in Creative Writing inspired by Particle Physics (Read the PhD here: http://researchspace.bathspa.ac.uk/10693/): "Atoms are not the smallest things," writes Frank Close. "Each has a rich labyrinth of inner structure where electrons whirl around a massive compact central nucleus"



Humans are pattern-seekers (STORYTELLERS), looking for causes and links, and to that end the "Standard Model of Particle Physics" was developed in the 1970s in an attempt to fit all these particles together into a kind of whole: "The standard model is ... a theory of fundamental particles and how they interact. It incorporated all that was known about subatomic particles at the time and predicted the existence of additional particles as well...There are seventeen named particles in the standard model... The last particles discovered were the W and Z bosons in 1983, the top quark in 1995, the tau neutrino in 2000, and the Higgs boson in 2012. As Frank Close says, "The Standard Model is not the last word – it is essentially the summary of how matter and forces behave at energies so far explored. It is generally recognised as being an approximation to a richer theory whose full character will eventually be revealed…





From: Michael Sandberg's Data Visualization Blog https://datavizblog.com/2014/02/25/quantum-computers-and-schrodingers-cat/

Lifting The Lid

by Rick Dove (From *Tales from the Other Box*, Burning Eye Books, 2020)
Watch him read it: https://www.youtube.com/watch?v=7ip48tpVAoA

i always felt that Schrodinger's cat was black
so damned familiar to be that
experiment of the white man
to be put in a box
to be both alive and dead amd theoretical
for the sake of someone else's critical thinking
for someone else's education
just an impossible image
inside someone else's head
subjected subjugated sold and bred
and made undead
by this our shared history
neglects to mention
how the torture and murder of small animals
is one of the early warning signs of psychopathy
but you know this already
and I know this intimately
having an affinity with that moggy
frequently while out jogging
going laps at dawn and watching others' scorn
as they cross themselves and cross the street
to keep away from me
to keep me from crossing their path

and you may laugh
but i always felt that Schrodinger's cat was black
so damned familiar that
feeling of being (or not being) at the whims of fate
the superpositions and quantum states
of being a number one (for weeks) sexual fantasy
and the lynch mob scapegoat simultaneously
this eternal duality of the word *hung*
about being corrected once
by an old white man to say *hanged*
as if by way of reparations or apology
he should improve my grammar and silence me
subtly put a lid on me and bottle me
to store me away in the coold and dark place
as if being seen (and heard) might change me
and make me real
instead of this velveteen victim
of the *white man's burden*

that he'd now rather forget
and stuff in a box with a poison pill
to be dispatched
to be euphemistically lost
and so like Schrodinger's cat
I am both fully assembled and flat packed
numbered irrationally the root of two worlds
some insist are mutually exclusive
Black & British
two worlds squished and sealed into this
to be or not to be
by these imperial measurements
in these ghetto experiments
to be or not to be
poisoned by this maddening society
that both co-opted and rejected me
adopted and neglected me
that still imagines me
taking jobs while stealing welfare simultaneously
and continuously puts me in a box
and then ends up hating that box
when it comes to define me
and leaves it feeling all the GUILTY of its acts
recalling its history our shared history
founded on all the murders we would rather not see
early warning signs of psychopathy that
the mutability of facts

so you see
I always felt that Schrodinger's cat was black
so damned familiar to me was his story
this duality of being (and not being)
forever at the mercy
of those out there doing the seeing
and their own curiosities
and PLEASE don't get me started
on my bisexuality

Place dinosaur in the oven

by Jan FitzGerald, (*Flash Frontier flash fiction magazine*)

My husband may be a physicist, but he's a boson when it comes to domestic science. So I've written him instructions on how to roast a chicken while I go to yoga.

Preheat the oven to 240ºC. The mysterious force that heats this box also runs the Large Hadron Collider.

Pat dry the bird – which DNA confirms descended from dinosaurs – with a strip of plundered forest.

Drizzle the small dinosaur with olive oil and rub on sodium chloride.

Chop a small *allium cepa* and sauté in butter.

Using the processor's centrifugal force, reduce bread slices to 1½ cups of crumbs.

Add sauteed cepa, 1 tsp mixed herbs and a raw egg. Re-activate machine briefly, but not so long as to produce a pentaquark.

Stuff the dinosaur's black hole with this mix – this is your stellar moment – so gravitational pull makes sure nothing ever pops out of it.

Truss the dinosaur's legs over each other. Twine works, String Theory doesn't.

Turn oven down to 200ºC.

Place wee dinosaur in the oven with some sprigs of *rosmarinus officinalis*.

Set timer for 1 hour 20 mins.

Pull up a chair, and watch quantum physics demonstrate how matter and energy behave.

Reassure yourself The Big Bang Theory is just a name.

The Two-Body Problem

by Ruby Cowling

*(Published in **I Am Because You Are**, edited by Pippa Goldschmidt and Tania Hershman)*

for J.

Stella

It would all be easier if our names were less alike. The near-rhymes, the Est- and the Ste- that tangle on the tongue, keep us tacked together like two joined hands. We try swapping for a bit but it freaks us out. We are two bodies, that's for sure – it's our doubleness that makes people look – but a force holds us, balances us, makes us one. Our own private force of *us*. We are as close as we can possibly be.

It's a choice. Hardworking, head down, obedient-to-survive? Or tell the world what you think of it, demand to know why you're trapped in this terrible place? It's not as if we discuss it, but I know she's sensing it too: change. She buys bras she's not ready for, playing with the straps so people see, and walking with this sort of sashay. She starts talking in a little baby voice which sets my teeth on edge, but at least in comparison I look like the cool one.

I want something that will taste of me. That desire has the sting of betrayal in it, but I keep chasing and the taste of me is good. It's the taste everyone else takes for granted.

At this party in fifth form, Esther won't stop bugging me. I tell her and turn away, hard. Later I see her across the room, a friend's arm round her hunched shoulders, her soft Bertha eyes red, her mouth all twisted up.

Esther

How can we know, looking in a mirror, who we are looking at? We could ask the other but still not be sure. In private she calls me Bertha, I call her Stevie. She seems more real than me. In photos where we're asleep and bonny under knitted blankets, or chocolate-mouthed in high chairs, I always think she's me and I'm her. It's her face I grew up gazing at, after all. We are as close as we can possibly be.

Thirteen summers swatting a Swingball round and round, waiting for something to change, then childhood falls behind us like a lifeboat cut adrift. She goes all Madchester, dying her hair, wearing nothing but baggy t-shirts and jeans. She stops bothering with "pointless" lessons like RE: instead she just strolls out of the gates, slinks into the park to do nameless things. She answers Mum and Dad back. Their faces make me curl up; I don't know how she dares. On the other hand it keeps the heat off me.

I stay clean, do more around the house, know I'm trying to compensate, keep us balanced, keep us all right. But I can see her receding. It feels like being stretched and stretched and stretched.

Something happens at a party – it's boy stuff, bitchy trouble from a so-called friend, and it hurts. I try to find her, knowing she'll stand up for me if no-one else will, but she shakes me off, eager to leave me behind.

Then she gets this boyfriend. He looks at her as if she's the only person in the world. She skips around saying she's going to marry him, and a sour liquid fills my chest. We're heading for the same uni (we both have offers. I'm not a complete waster) but oh, here's *Barry,* bending all the light towards him. We get our results; she and Mr Centre of the Universe choose Edinburgh. I choose Exeter.

Everyone thinks I'm running wild, but I've lost interest in all that. Mostly I stay in, staring at books on my reading list, remembering to be glad I don't have to share a room any more. My thoughts go dark. I get the feeling I've lost my grip on the thing that used to be at the centre, the thing that made me significant.

I stop phoning home: too many sorrys to say. I can't afford to give away the word that's keeping the lid on everything.

It becomes a struggle to breathe, as if I'm spinning into cold outer space. I claw my way to a first, and Exeter offers me an MA place, fees paid, with a maintenance grant on top. So I do the obvious thing: I run off to Spain without telling anyone, get a job in a bar and a bed above it, and spend my days lying on the flat white roof, willing the warmth from that distant star into my bones.

On our twenty-second birthday we are as far apart as we have ever been. It's a raucous Saturday night at the *Dos Soles* and I forget, then, turning between customers, I catch myself in the mirror behind the bottles. I raise an imaginary glass at the softening eyes of my reflection.

At our leavers' do, with some careful manoeuvring, I finally hook up with Barry. Fit, funny Barry. I like that feeling of having someone to phone, to tell small things to; someone who's on my side. We make a tight couple, and though people say we're mad when in our second year at Edinburgh we get engaged, I feel settled, balanced by him. I feel almost as if things are exactly as they should be.

Edinburgh's fine. I do okay. I go home for the holidays, but never seem to coincide with Stella. Dad gets ill, then worryingly so, and I wonder why I hardly noticed him before. Or Mum, actually, who grows strong in the caring, then cracks, steps out of herself, goes beyond strong, becomes magnificent. All I can do is watch the pair of them, jealous.

We split up at the start of finals, when the wedding starts to loom. It's not him, it's me. But it is him.

I start to feel that being alone must be normal. Unpacking in my new flat I flick through boxed photos: here's me on May Day, straddling the bike I covered in blue crepe paper, so proud of my work. I turn it over for the date, and it's her initials I find. I feel a fondness, of all flimsy things, like she's someone I knew just for a while, in another time. I realise I don't even know where she's living.

On our twenty-second birthday we are as far apart as we have ever been. I sleep in, treat myself to a manicure, then have lunch with a few friends, do some job applications to keep myself busy. Then at nearly midnight I get a text from an unfamiliar number: *Happy*

Berth-day!

**

So...

So...

This seems weird.

I know.

Dunno why.

Me neither.

I mean, it's you.

It's me.

And it's me.

And it's you.

It's us.

It's us.

I'm glad we did this.

Me too.

**

Maybe just because everything is moving all the time, there comes a point even if you run when you have to face the fact of your family: how to measure their influence, what to do with that measurement now that you know it and can't pretend you don't. Whether to reconcile or to let go.

I wrestle with this one until my therapist says for god's sake, just stop resisting. (Yes, I have a therapist now. Her ad in the expat paper said *speaks Eng. & Sp., understands heartbreak in any language*.) Make a gesture, she says more warmly. You'll see.

A whirl of arrangements and messages feels like quiet music getting louder, and suddenly we're together again. My Bertha: sort of wiser, but still so gentle, so natural. We help each other through the worst of everything, without many words. The closeness lasts a little while after Dad.

A few months drift by. In a post-chemo snooze Dad mumbles my name, but it comes out as hers. I get a gripe in my solar plexus, which I put down to a recent hospital-vending-machine egg sandwich. Then it doesn't go away. Things start to feel urgent, as if they are closing in.

She's not that hard to find: a quick search of social media and there she is, asking to connect. It's as if all it takes for us to start coming back is a small change of intention on each side, a glance over our cold shoulders.

We're shy over email, then the phone, and suddenly we're together again, squeezing the death from each other at the airport. She stays in town and we see each other every day. Her eyes are rich and sad. My throat gets a rock when I realise: she's beautiful.

We talk about me moving back, or whether she'd come to stay with me for a bit. We talk about going travelling together. Then we both go quiet. I remember what I've gone through alone, how hard-fought my solidity is, and I know what's happening. It's the other irresistible thing that's happening.

We talk about work, share our silly dreams, but she looks out of the window when I tell her about the men I'm sort-of-seeing. Poor Stevie. I wonder if she'll find someone. I backpedal, tell her I'm not really looking, but the words feel cottony and weak. I'll always be looking.

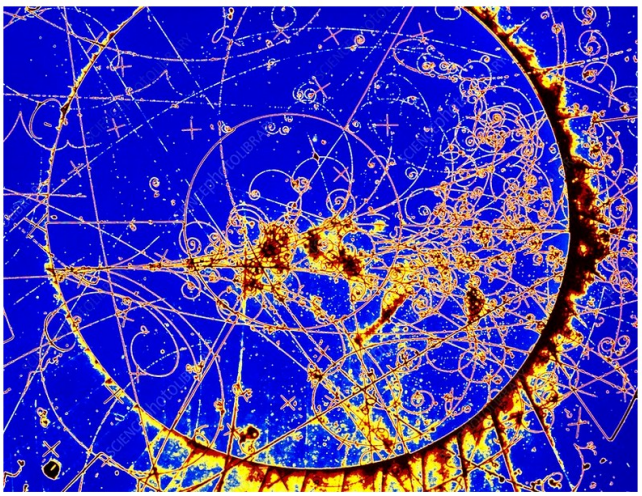
Inside our *us*, standing face-to-face, we see more that's different than the same. It can't be measured like our height or feet or DNA, but that doesn't mean it has no mass, no pull of its own. Even with the warmth of having her close, even with a pull as strong as the private force of *us*, I can't stay in the same place. Who can? There are other things that act on you. Things that make you you. The problem is to recognise your path when there's someone else so close to think of, someone who's both your star and their own star too.

And then, soon enough, I feel us drawing apart again. My heart protests, fearing a repeat. I hope this time it's not us pushing off each other, but rather that we're drifting away because we need each other less. Or maybe now it's not two bodies repelled by the force of *us* but the serene unfurling of some ungodded plan, or maybe it's not the two of us at all: it's just the endless coil of change that rules the human path. So to ease the fearful heart I tell it, when I think of her: *evolve* and *revolve* have grown up out of *love*.

The Cloud Chamber

In 1912 C. T. R. Wilson, a Scottish physicist, devised the cloud chamber - water evaporated in an enclosed container to the point of saturation and then lower the pressure, producing a super-saturated volume of air. Then the passage of a charged particle would condense the vapor into tiny droplets, producing a visible trail marking the particle's path.

The bubble chamber is similar to a cloud chamber - made by filling a large cylinder with a liquid heated to just below its boiling point. As particles enter the chamber, a piston suddenly decreases its pressure, and the liquid enters into a superheated, metastable phase. Charged particles create an ionization track, around which the liquid vaporizes, forming microscopic bubbles. Bubble density around a track is proportional to a particle's energy loss.



Particle tracks in bubble chamber

A138/0100
Rights Managed

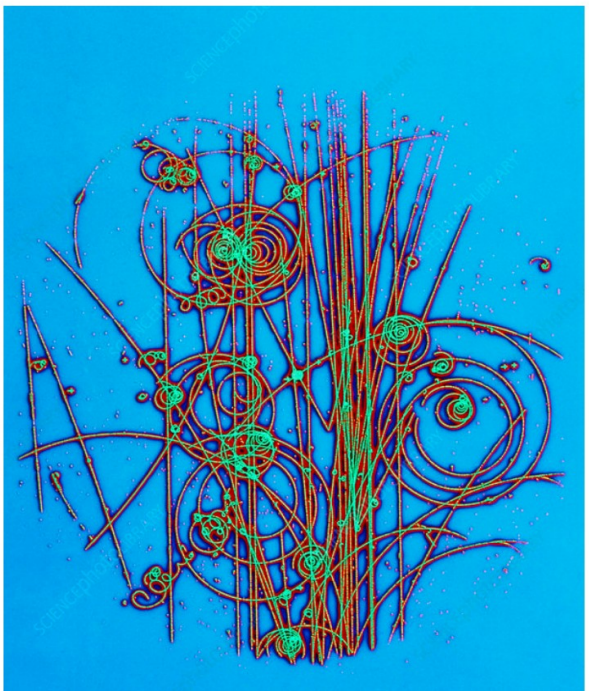
48.8 MB (3.8 MB compressed)
4721 x 3610 pixels
39.9 x 30.5 cm · 15.7 x 12.0 in (300dpi)

REQUEST

ADD TO BASKET

ADD TO BOARD

BUY PRINT



Bubble chamber photo

A138/0012
Rights Managed

34.4 MB (2.9 MB compressed)
3017 x 3990 pixels
25.7 x 33.8 cm · 10.1 x 13.3 in (300dpi)

REQUEST

ADD TO BASKET

ADD TO BOARD

BUY PRINT

If you were red riding hood
by Hannah Grieco

From The Rainbow Issue of Fairy Tale Review, *published by Wayne State University Press*, *2023.*

and I found you, sniffed you out on the path with your basket, your cape, your soft hair, your pink-orange freckles lit by the sun piercing the canopy, and if I jumped out, held up my thick paws and clipped nails, opened my mouth wide, to show not teeth but hunger, not teeth but patience, as you walked this forest over and over, as I smelled the wishes rising from your skin, smelled the jail smell of your life, of this routine of caregiving, of caring, of giving, and if I searched and found the red haloing your head, the fire of everything you wanted to be, everything your mother and grandmother and great-grandmother wanted you to be, if you cried out, but it wasn't fear, and then touched me, traced the pads of my palms, and said *what big hands you have*, said *you're so hungry*, said *I used to fear this path*, then I could finally tell you *I'm not really a wolf*, and you'd run your fingers up my arms, dig the tips down through the fur to my skin, and say *girls can be wolves too*, if you reached up to my lips, pushing your hands into my mouth, if you said *take me someplace new* as I tried to whisper around you, my mouth full, as I tried to tell you *let the ax man come, I'll slice myself open*, you'd hush me, widen my mouth, push in up to your elbows, crawl all the way inside, and I'd turn and run the both of us from these woods.

Give

— Carol Ann Duffy,(From 'Rapture')

Give me, you said, on our very first night,
the forest. I rose from the bed and went out,
and when I returned, you listened, enthralled,
to the shadowy story I told.

Give me the river,
you asked the next night, then I'll love you forever.
I slipped from your arms and was gone,
and when I came back, you listened, at dawn,
to the glittering story I told.

Give me, you said, the gold
from the sun. A third time, I got up and dressed,
and when I came home, you sprawled on my breast,
for the dazzling story I told.

Give me,
the hedgerows, give me the fields,
I slid from the warmth of our sheets,
and when I returned, to kiss you from sleep,
you stirred at the story I told.

give me the silvery cold,
of the moon. I pulled on my boots and my coat,
but when i came back, moonlight on your throat
outshone the story I told

Give me, you howled
on our sixth night together, the wind in the trees.
You turned to the wall as I left,
and when I came home, I saw you were deaf
to the blustering story I told.

Give me the sky, all the space
it can hold. I left you, the last night we loved,
and when I returned, you were gone with the gold,
and the silver, the river, the forest, the fields,
and this is the story I've told.

Red

by Melissa Ostrom

Matchbook Review

Should she have ignored him? He smiled. Should she not have smiled back? He asked her where her friends were. Should she have lied? Should she have said somewhere around here, somewhere nearby? Should she not have been alone in the first place? Was a girl allowed to walk in these woods alone? He said he liked her outfit. She said thank you. Should she not have worn this outfit? Not have worn red? When he asked her where she was going, should she have said to visit her boyfriend the cop, her father the pastor, her grandfather the judge? And when she opened the door to the house in the woods, should she have locked it behind her? Should she have realized a lock would make no difference? That safety, happiness, and hope were already gone? Should she have noticed the fruit flies over the bowl of Winesaps, how the flies weren't burrowing but hovering, disturbed, and traveling fast? And what about her grandmother? When Grandma didn't answer her hello, should she have left? Should she have grabbed the poker by the hearth, just in case? Should she have cleared her throat and prepared to scream, just in case? Should she have shouted out the window for help, for an eyewitness, for someone to believe her, just in case? Like the hunter she saw in the hunting blind by the stream. Would he hear her? Would he help her? Would he hurt her, too? And what about the stranger? Should she confront him? Fight him? Try to escape him? Would she stand a chance? Would she even see him coming? Would she notice his shadow in the uncertain, soft light that pooled across the floor?

THREE FEMINIST FABLES

Suniti Namjoshi

Case History

AFTER the event Little R. traumatized. Wolf not slain. Forester is wolf. How else was he there exactly on time? Explains this to mother. Mother not happy. Thinks that the forester is extremely nice. Grandmother dead. Wolf not dead. Wolf marries mother. R. not happy. R. is a kid. Mother thinks wolf is extremely nice. Please to see shrink. Shrink will make it clear that wolves on the whole are extremely nice. R. gets it straight. Okay to be wolf. Mama is a wolf. She is a wolf. Shrink is a wolf. Mama and shrink, and forester also, extremely uptight.

Miss Hood in the Nursing Home

There are at all times footsteps on the landing
It's March. Last autumn's last leaves hope and hope
like ghosts of frogs to find their late
lives in the pools of air the bare trees hold
outside her windows. She'll undress
and go to bed an hour to stretch
the day a little and then scold
her mind for wandering as it resolves
to call for Matron and confess
that she has fairytale for memory
and can't afford to stay at Grateloup.
She'll make for one more time the intimate
attempt to constitute the 'I'
without which we shall have no understanding.
Good. Good. Her eyelids have begun to twitch
in that exact way we term *gratum lupis*
which means of course agreeable to wolves.

by Peter Bennet

Before

by Joy Baglio
Fairy Tale Review

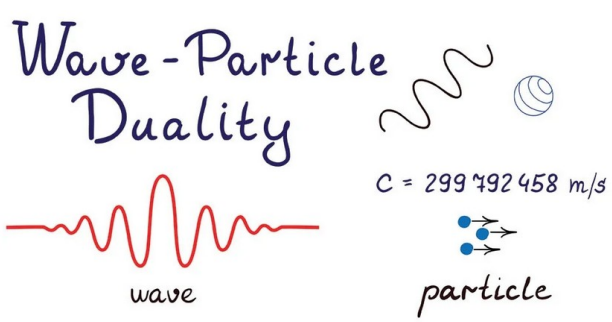
Let's talk about the fairy godmother, before. At this point, she is just a woman, still relatively young, approaching her life's precipice, fairy-status undiscovered, role of godmother yet realized. It doesn't matter how all that will come to be, only that right now she works at a diner, spends the day penciling people's orders on a notepad and running back and forth from the kitchen to her tables, carrying plates of eggs and buttered toast, a practiced smile on her face. On her breaks, she smokes outside on the picnic table by the road, or calls her children, who are with her ex-husband this week, and at night she watches TV with her mother, who lives with her and is slowly forgetting most things, including the plots of her favorite movies, which they now watch over and over. That weekend the fairy godmother takes her sister's children to the water park so her sister (who is going through a divorce of her own) can have a break from it all. The water park is in a strip mall surrounded by desert. It is full of screaming children and depleted mothers and overpriced junk food. The fairy godmother thinks it might be the closest place to Hell she's ever been. Tomorrow after work, she'll help a friend pick out a dress for the friend's wedding, then she'll make dinner for her mother and watch *Moonstruck* for the third time that week, and she has to schedule an appointment with the dermatologist at some point because a strange rash has emerged across her shoulder blades and back like something is trying to crawl out of her skin. She doesn't know yet that she has wings, or fairy blood, and what is magic anyway except wishful thinking, a dream that is not really her own? She has not met the girl she will save yet, who at this point is still only a baby, still loved and happy, but perhaps the two are already merged, connected across time and space, opposite sides of the same coin. Perhaps every fairy godmother who crystalizes carriages from garden vegetables, who breaks open the sealed shutters of someone else's dead-end life, first sits on the ledge of her own transformation, a starved hope inside her, a dream of her own, and wonders what she needs to become herself, wonders when she'll have the courage to leap.

Where Physics and Fairy Tales Collide – what do these remind you of??

Dark Matter

NASA: "Dark matter is the invisible glue that holds the universe together. This mysterious material is all around us, making up most of the matter in the universe. But what exactly *is* dark matter? That's a question that scientists have been trying to solve for almost 100 years. Dark matter makes up most of the mass in galaxies and galaxy clusters. In fact, scientists estimate that ordinary matter makes up only about 5% of the universe, while dark matter makes up about 27%. (The rest is thought to be dark energy, which is its own mystery). It's thought that dark matter shapes the cosmos, organizing galaxies and cosmic objects on a large scale."

Wave/particle duality: Light can behave as a particle (i.e. photons) **and** a wave (Schrodinger's cat)



Charmed Quark: The charm quark is one of six quarks that, along with leptons, form the basic building blocks of ordinary matter. Particles containing a charm quark are known as either "charmed particles" or "charmonia." They have only a fleeting existence before decaying into more conventional particles. At facilities known as "charm factories," large numbers of charm-containing particles can be produced ...

Observer paradox: measuring something – or even just observing it – changes it.

Uncertainty principle: The uncertainty principle states that *we cannot know both the position and speed of a particle*, such as a photon or electron, with perfect accuracy. tells us that there is a fuzziness in nature, a fundamental limit to what we can know about the behaviour of quantum particles and, therefore, the smallest scales of nature. Of these scales, the most we can hope for is to calculate probabilities for where things are and how they will behave. Unlike Isaac Newton's clockwork universe, where everything follows clear-cut laws on how to move and prediction is easy if you know the starting conditions, the uncertainty principle enshrines a level of fuzziness into quantum theory.

Spooky action at a distance – two quantum particles are brought together and "entangled" and then separated by a great distance. Changing one instantly brings about a change in the other, no matter how far apart they are.

Fairy Tales & Characters

Anansi - the god of stories, wisdom, and trickery, often in the form of a spider.
Elves and the Shoemaker - A shoemaker ran out of leather. In the morning, they found a pair of shoes and someone bought them. The next night, another pair of shoes appeared. The third night they hid and saw two elves making shoes. In gratitude, they made clothes for the elves, as winter was approaching.
Emperor's New Clothes - A vain emperor hired two people to make him some new clothes. The tricked him, telling him the cloth was not visible to people unfit for his position or who were very stupid. At first the people pretended to see the clothes, but a child says that he is not wearing clothes and people start to agree. The emperor realized he was swindled but continues the parade anyway.
The Gingerbread Man - A little old woman baked a gingerbread man and when she took him out of the oven, he ran away. The woman and her husband chased him, as well as the pig, cow and horse. No one could catch him. He came to a river and a sly fox told him he could jump on his tail and he would take him across. He did and the fox went deeper. When the gingerbread man jumped on his nose, the fox ate him.
Goldilocks and the Three Bears - Goldilocks saw a cabin in the woods and entered, she found 3 bowls of porridge, one too cold, one too hot and the other just right, so she ate it. She found the three beds, one was too hard, one too soft and one just right, so she fell asleep. The bears came home and frightened her and she ran away.
Hansel and Gretel - The two childrens' wicked stepmother left them in the forest where they found a house made of sweets. The evil witch that lived there captured them and was going to make a soup out of them. Gretel escaped and pushed the witch into the boiling water. The children found treasure and they were never hungry again.
Jack and the Bean Stalk - When Jack traded the family cow for magic beans, his mother was furious and threw them out of the window. The next morning there was a giant beanstalk. Jack climbed up & found a giant with gold coins, which he stole. Later, he returned and stole a golden egg from a hen. The 3rd time he tried to steal a magic harp but the giant chased him. Jack chopped the beanstalk down and the giant died.
Mohammed with the magic finger: The baby was known throughout the city as 'Mohammed with the magic finger,' because, whenever he stuck out his little finger, he was able to see anything that was happening for as far as two days' distance.
The Black Cloth: a young orphan girl named AÏwa, whose mother has died, is set an impossible task by her stepmother: to wash a black cloth until it is white.
The Tale of the Bamboo Cutter: A bamboo cutter finds a tiny girl inside a glowing bamboo stalk. The girl grows into a beautiful and desirable woman, attracting numerous suitors including the emperor. However, she reveals that she is not from Earth, but from the moon and is eventually taken back, leaving the bamboo cutter and her suitors heartbroken.
Tokoyo: A girl vows to return to her father after the Emperor banishes him. She visits forbidden islands, spies on imperial gossip, and offers herself up as a sacrifice to save a young girl — though instead of dying, she frees the Emperor from a powerful underseas curse.