Param

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Pointillism is all about placing dots of pure color side by side. No mixing, just color, and my brain did the rest.

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Beneath Karnataka's ancient hills and sun-baked soil lies a story few know: a tale of underwater eruptions, wandering continents, and mountains born not by collision but by cooling lava.

WANDER AND WONDER WHY

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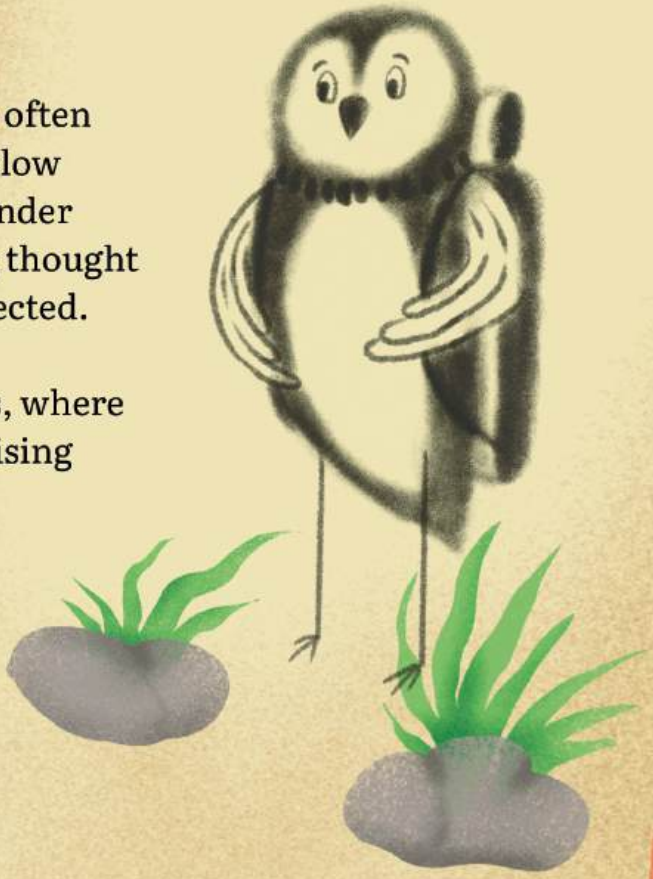
OLLIE THE OWL

Hi, I'm Ollie the Owl.

I've learned that meaningful questions often begin in everyday moments; when we slow down, notice something small, and wonder **why**. A detail, a pattern, even a passing thought can open the door to something unexpected.



This magazine is full of those moments, where curiosity leads to fresh ideas and surprising connections.

Let's explore them together.

EDITORS NOTE

Ollie reminds us that discovery isn't just about big moments.
It's about the quiet, curious moments woven through our daily lives.

We brought Ollie to life to help guide us and you toward those insights. We're fellow explorers following curiosity wherever it takes us: to surprising ideas, connections, and "Aha!" moments.

Thanks for joining us.

CLOUD SPOTTING

So there I was... lying on the grass, mid-snack, staring at the sky like a very thoughtful potato — when someone casually said,

"You know, that's a cirrus cloud."

A what now? I thought clouds were just... clouds. Fluffy things that cry sometimes. But apparently, clouds have names, moods, altitudes, and whole personalities.

WHO KNEW?

Naturally, I had to investigate. And now, dear reader, I bring you the official cloud lineup, straight from the sky's casting call:

High-Level Clouds (Above 20,000 ft)

These live way up high — graceful, cool, and a little mysterious.

Cirrus: Thin, wispy, like someone doodled with a feather. Definitely artsy.

Cirrocumulus: Tiny cottony ripples — like fish scales! A "mackerel sky," they say.

Cirrostratus: A sky-wide filter. Look for a halo around the sun or moon — magical.

Mid-Level Clouds (6,500 to 20,000 ft)

Chattier than the high-flyers. They like drama, but keep it quiet.

Altocumulus: Puffy patches that look like a field of cotton balls. Cute, but unpredictable.

Altostratus: Gray, uniform, and moody. When they show up, the sun gets shy.

Nimbostratus: Full-on rain mode. These clouds don't mess around — they cry all day.

Low-Level Clouds (Ground to 6,500 ft)

The close-up crew.
You'll probably see these guys on your daily walk.

Stratus: Flat, gray, and sleepy-looking. Basically the sky's blanket.

Stratocumulus: Lumpy, rolling clouds that hang low and look like they're gossiping.

Cumulus: Ah yes, the classic cloud! Fluffy, happy, and living its best life. Unless it starts bulking up...

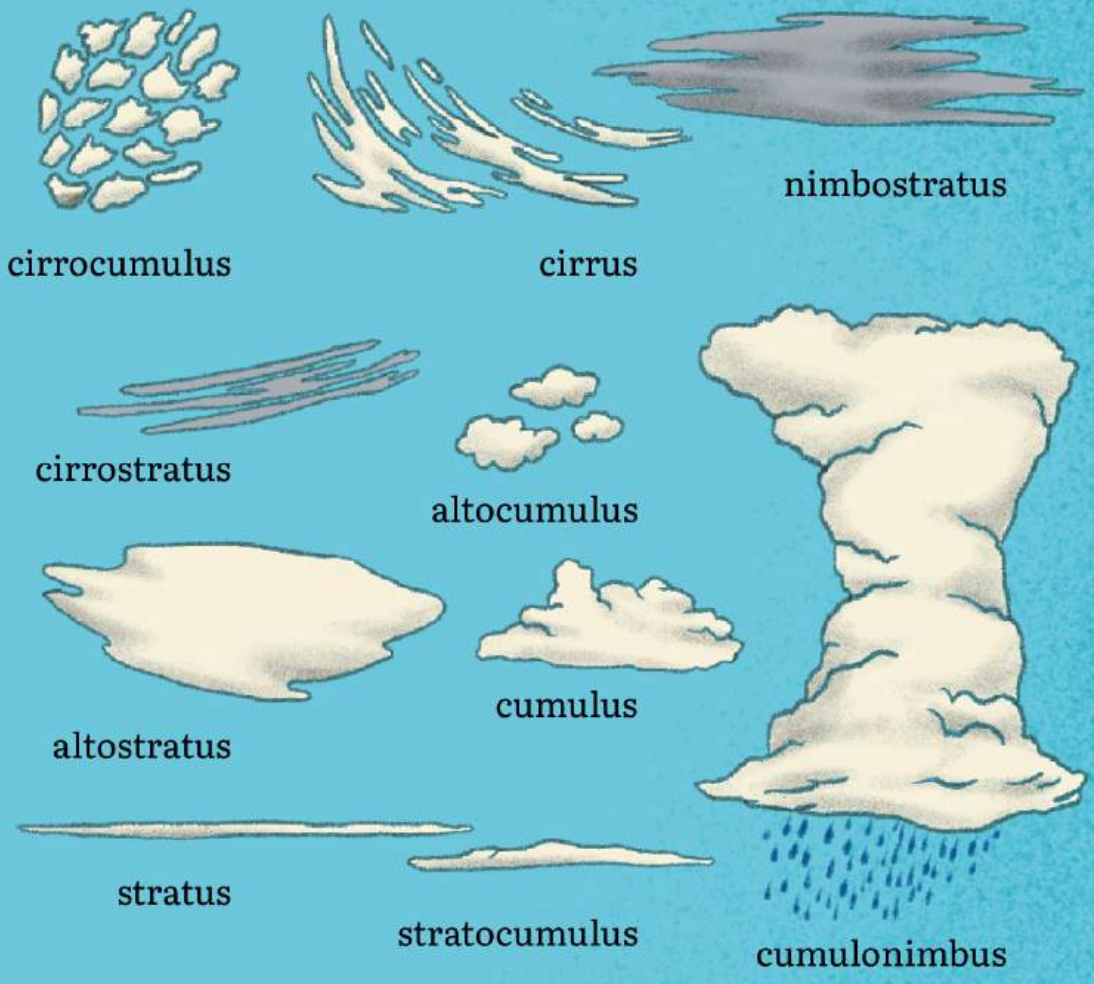
Clouds That Go All Out

The dramatic ones.
You'll know when they arrive.

Cumulonimbus: Enormous, towering beasts. Thunder, lightning, the whole show. Stay indoors unless you like sky-roars.

And just like that, I've learnt that even clouds, the floaty, quiet background actors of our everyday lives, have depth.

Pretty amazing, huh?



Makes me wonder what else we've been walking past without noticing. This world is full of strange little details and quiet patterns... and the more I look, the more it humbles me.

There's always something new to spot, something new to learn.
And honestly? It's kind of the best part - Uncertainty.

POINTILLISM:

THE MAGIC OF DOTS, COLOR, AND PERCEPTION

A Sunday Afternoon on the Island of La Grande Jatte
by Georges Seurat

Imagine a picture built from thousands of tiny, colorful dots—each one creating something greater than itself. That's Pointillism, where color, light, and perception combine to form vibrant images, almost like the pixel art of the past. Ready to see how art and science collide?

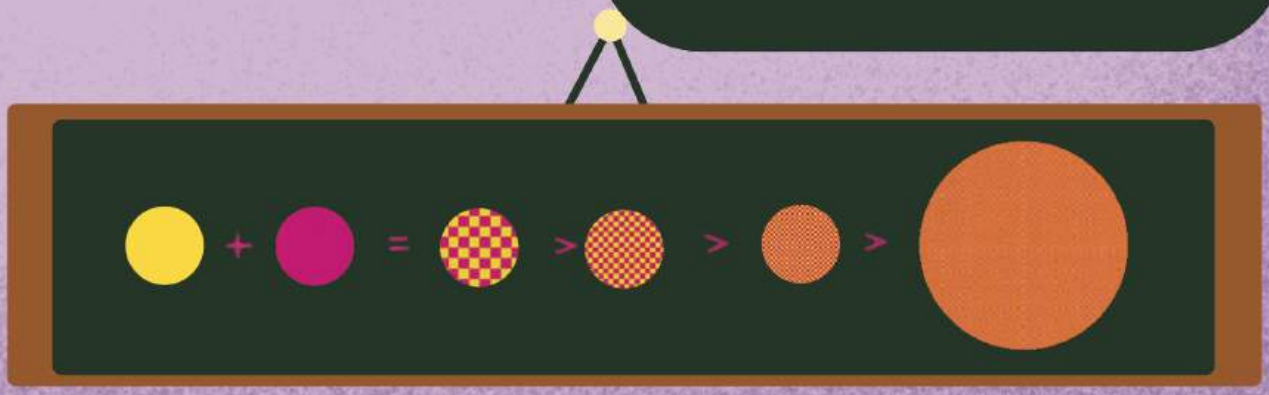
I'll never forget the first time I saw a Pointillist painting up close. From a distance, it looked like a **complete vibrant scene**, jumping at me.

But as I moved in closer, I was amazed to realize it was made of **thousands of tiny, colorful dots!**

It felt like stepping into a world where color was alive, and it was all created by **Georges Seurat and Paul Signac** in the 1880s.

Pointillism is all about placing dots of pure color side by side. No mixing, just color, and my brain did the rest. The closer I got, the more I saw how the dots came together to create something bigger than themselves.

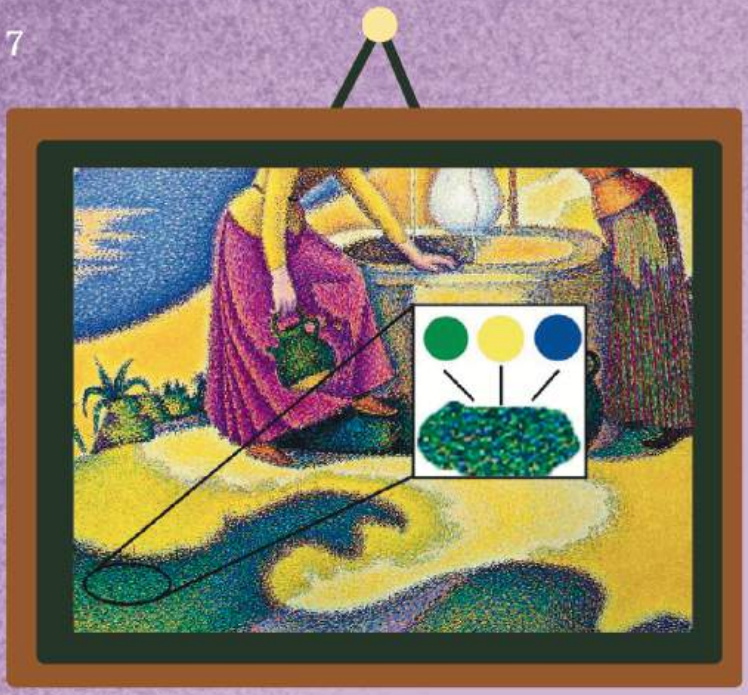
When I stepped back, I saw yellow and red dots transform into orange, even though there was no orange paint at all. It was like optical magic happening right before my eyes!



SCIENCE IN THE DOTS

The more I looked, the more I realized the magic was in how my brain worked with the dots. Instead of mixing pigments, the artists placed pure colors next to each other, and my brain blended them for me.

It's called **optical mixing**, and I learned that it's the **visual cortex** in my brain that makes it happen. It shapes the dots into something dynamic and full of life, no matter where I stood. It felt like the painting was alive, constantly shifting.

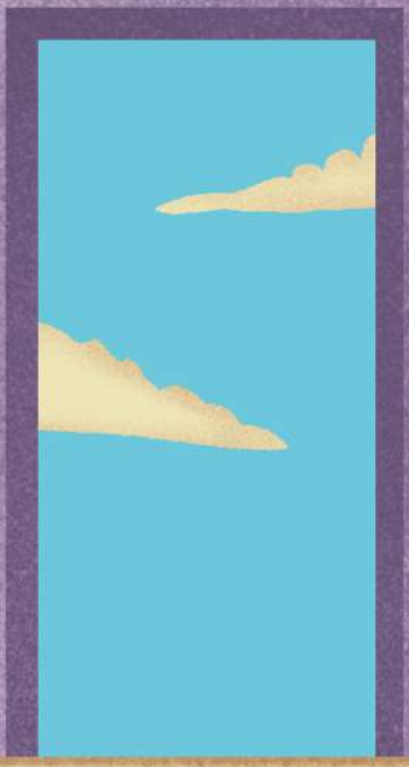


Femmes au Puits by Paul Signac showing a detail with constituent colours.

DOTS AND PIXELS

What really blew my mind was how similar Pointillism is to modern digital art. I started to see it as an early version of pixel art! Just like how pixels work on digital screens, the tiny dots in Pointillist paintings come together to form a full picture.

I realized that Pointillism is kind of the grandfather of pixel art; proving that color, light, and perception have been working together for a long time to create something beautiful.



Both rely on optical blending, where my eyes mix the dots or pixels into something whole. Digital screens use red, green, and blue pixels to make every color, and Pointillism uses pure dots to do the same thing.

Pointillism shows how art and science can collide in fun ways. Techniques like mosaics and optical illusions do the same, playing with perception and color. Who knew art could be this scientific? Next time, just tell people you're "studying" a painting. It'll sound way cooler!

SUNOGRAPHY

(SUN PRINTING KIT)

Ever had one of those days when you need a colourful card, but you're just too lazy to step outside to buy or print one? Yeah, me too. But guess what? I found a way to get these prints without leaving my comfy spot under the sun.

The answer? Sun printing paper!
And construction paper
for good measure.

Throw in some twigs, leaves, and
of course, the bright sun peeking
in, and I've got myself a little DIY
print-making setup!

Let me walk you through it.

I've got sun printing paper, and also some construction paper.

I've got a leaf, a twig, and other objects I want to make prints of.

And, of course, I've got the bright sun shining away.

I placed the objects I wanted prints of; onto the sun printing paper, and for an extra copy, I used the construction paper.

Then I set everything out in the bright sunlight and left it there for the entire day.

The construction paper faded in the areas exposed to sunlight (I sprinkled vinegar on it to make it permanent).

When I rinsed the sun printing paper, the exposed areas turned blue, leaving behind a more permanent, high-quality print.

I discovered that the paper is coated with iron-based compounds that react with UV light. When I placed an object on the paper, the areas under it stayed white while the rest of the paper turned blue.

Similarly, the dyes in the construction paper break down when exposed to UV rays.

In the end, I learned a few things. UV rays are more than just what makes us run for sunscreen—they're the secret ingredient to turning a plain piece of paper into something cool. Pretty amazing, right?

Next time you need a colourful print, don't head to the printer—let the sun do the work for you. Who knew the sun was such a great artist?

(Reader submission) by Kirtana

A LIGHT AT THE END OF THE TUNNEL

Have you ever seen a firefly? You know, those glowing little creatures that flit about at night? I always thought they were just flies. Turns out, they're not flies at all. They're beetles! Yes, beetles from the family Lampyridae.

My first time seeing a firefly was in a village nestled in the dark forests of Kerala. One night, my friends and I were returning from dinner to our hotel.

It was so dark that we had to hold hands just to stay together. Our phone torches barely lit the narrow path, and we joked that someone might disappear into the night if we let go.

And then we saw it. **One single firefly** hovered ahead glowing gently. It was as if he had heard us. Didn't buzz or rush, just guided us.

From the riverside up the steep hill, it lit the way...until we reached a streetlight and just like that, it vanished.

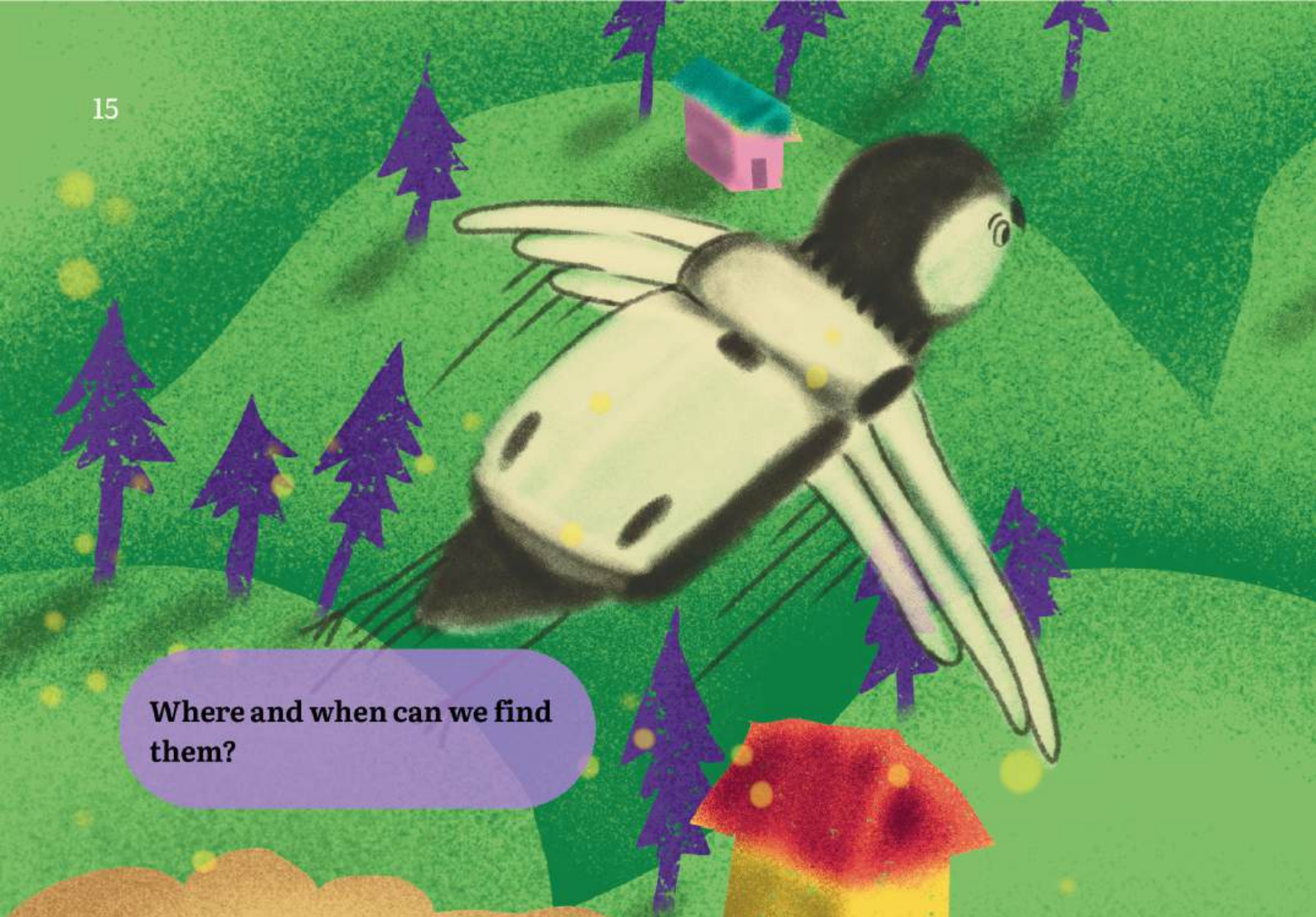
We were in awe...so beautiful, so magical, and the first question that came to my mind was: **Can I also glow in the dark? If I eat the same things they ate, can I also glow from my belly?**

It turns out, it's not that simple! Of course, with nature it never is. Fireflies don't glow because of something they eat; they glow because of a **chemical reaction** that happens inside their bodies. It's called **bioluminescence**.

There's a special substance in their lower abdomen called **luciferin**, and when it reacts with oxygen in the presence of an enzyme called **luciferase**, it produces light. And the coolest part of all? This happens without generating heat! It's cold light. Very cool (literally).

So no, eating like fireflies or a firefly salad won't make me glow (and I don't think they'd appreciate that either).

Fun Fact: Scientists have taken those glowing chemicals and used them in research labs in glowing jellyfish, and even in attempts to make glow-in-the-dark plants! (YouTube: Sheldon makes glow-in-the-dark fish)



Where and when can we find them?

Fireflies love humid, lush, and undisturbed places—think forests, riverbanks, and hill stations right after summer when the air is moist and the skies are dark. The best time to see them is usually just before the monsoon, around May to early June.

In Maharashtra, the **Purushwadi Firefly Festival** is famous. Thousands of glowing beetles light up the forests like fairy lights on Deepavali. You can also spot them in **Bhimashankar, Rajmachi, Chakrata in Uttarakhand**, parts of **the Western Ghats,** and even **Kerala**, which is where I met my lone glowing guide.

That night, we only saw the one guy, so where were the others? Was he lost? Can't he use his little light to the way back? What else do they use that glowing light for? Is there a secret code or a hidden pattern?

There are so many questions, and the answers? Well, that's where you come in. It's all left to your curious brain, your observing eyes to build a trail.

Better get going, we've got a long way to go. Lots of questions to answer. And hey, you can miss your turn this time, the fireflies won't mind. If you forget, they'll guide you.

But they're very picky, too much light, noise, pollution, or human activity, and they vanish.

So if you want to find them, you need to be patient, quiet, and gentle. Maybe even leave your torch behind.

BORN OF FIRE:

KARNATAKA'S SECRET VOLCANOES AND THE LAND THEY CREATED

Beneath Karnataka's ancient hills and sun-baked soil lies a story few know: a tale of underwater eruptions, wandering continents, and mountains born not by collision but by cooling lava. This is the story of a land forged in fire—and if you pause, touch a stone, or follow a trail, you might just hear it whisper back.

from springer nature journal

Karnataka's Billion-Year Foundation: Volcanic Islands in a Primeval Sea

I remember my first visit to Chitradurga, walking among the weathered stones of the fort, with the wind sweeping over the hills. As I circled the fort, something about the land beneath my feet seemed to call out to me, telling me that this place was much older than it seemed. Beneath this fort, the ground held a history far older than human civilization.

More than 3.5 billion years ago, the land that would become Karnataka was submerged beneath a primeval sea. And beneath that sea, volcanoes erupted, spewing lava into the waters. That lava cooled quickly, settling into thick **greenstone belts**, which still form the foundation of the **Dharwar Craton**. This craton is one of the oldest and most stable parts of Earth's crust, a silent witness to the fiery past.

Pillow lava rocks at Maradihalli, Chitradurga

Karnataka - A Piece of a Larger Story

But this land is not alone in its ancient volcanic past. What I now stand upon in Karnataka is part of a much larger geological puzzle that stretches across India. The forces that formed this land —volcanic eruptions, shifting tectonic plates—also shaped much of the Indian subcontinent.

Imagine, over 66 million years ago, the **Deccan Traps**, massive volcanic eruptions, didn't just cover Karnataka —they spanned across **Maharashtra, Madhya Pradesh, and Gujarat**, laying down layers of basalt that form vast plateaus today. What seems like a calm, quiet land now was once at the center of one of Earth's largest volcanic events.

Pillow Lavas: Echoes of a Submerged World

One of the most fascinating geological features of Karnataka is the **pillow lava** found in areas like **Maradihalli in Chitradurga**. These pillow lavas, shaped by underwater volcanic eruptions, are a direct reminder of the ancient volcanic activity that once took place beneath the sea. The lava, cooling rapidly upon contact with water, formed the distinct, rounded shapes we see today. These lavas are not just a testament to volcanic activity, but also to a time when this land, now solid, was once submerged beneath the sea, far below the surface we walk on today.

Though the volcanoes are no longer active, these **greenstone belts** beneath the land remind me of a time when fiery eruptions shaped the very foundation of Karnataka. Standing here, I realize that the stones beneath my feet have lived through an age of fire, holding memories of a time long before humans walked the Earth.

Science Insight: The Dharwar Craton's Role

The Dharwar Craton is a remarkable relic, offering a window into the ancient processes that shaped Earth's crust. Even though the land is calm now, the volcanic activity that once created it still echoes in the rocks below.

Feel It

Imagine lava cooling under a sea before any creature walked the land, and feel the presence of history beneath your feet, both human and geological.

The Deccan Drama: When Lava Flooded Karnataka

I can hardly imagine the violence in what happened 66 million years ago, but the land bears the scars of it. The Indian subcontinent, drifting across the Earth, cracked open. From these fissures, lava poured out—not from a single volcano, but from many. I picture rivers of molten rock flowing over the land, shaping everything in their path. This was the birth of the Deccan Traps.

The lava spread far and wide, covering northern and western Karnataka in thick basalt flows. But what's even more astounding is that these same fissure eruptions extended across much of central and western India, creating vast volcanic plateaus that stretched into Maharashtra, Madhya Pradesh, and Gujarat. The Deccan Traps weren't just confined to Karnataka; they shaped a vast swath of India, covering an area larger than many countries.

Today, when I walk across the plateaus, I'm walking on the cooled remnants of those fiery eruptions. The black cotton soil beneath my feet, the rolling hills, and the distinctive ridges—all of it was born from volcanic forces that reshaped the landscape, not just in Karnataka but across much of India.

Science Insight: The Impact of the Deccan Traps

The Deccan Traps were formed by massive fissure eruptions, where lava flowed from cracks in the Earth's crust. These eruptions not only shaped Karnataka but also covered large parts of Maharashtra, Madhya Pradesh, and Gujarat, leaving behind one of the largest volcanic features on the planet.

Some scientists believe these eruptions may have contributed to a global climate shift that helped end the reign of the dinosaurs.

Feel It

Even though the land is peaceful now, I can't help but feel the lingering power of those volcanic eruptions as I walk across the plateaus. The land, though quiet now, was once alive with molten rock.

Island of Fire: Coastal Clues from Continental Drift

The volcanic story of Karnataka isn't confined to the plateaus and hills. Along the coast, islands like St. Mary's Islands near Udupi tell another chapter of the volcanic past.

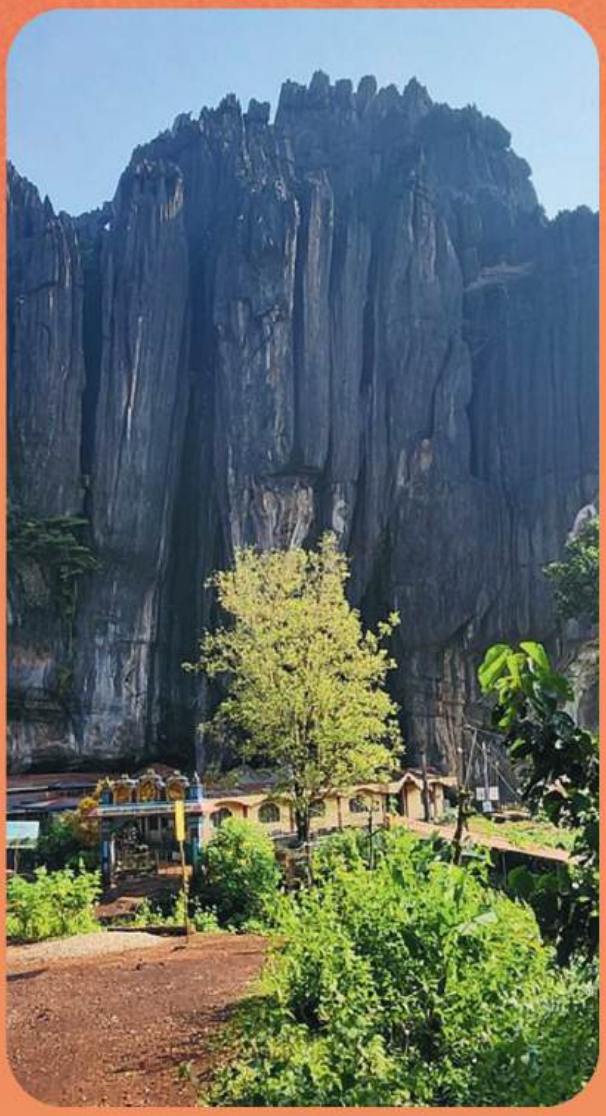
Mary's Island's Basalt rocks

The **hexagonal basalt columns** here are not just visually striking—they're geological markers of a time when India broke away from Madagascar, 88 million years ago. Lava, cooling slowly, formed these remarkable geometric shapes, leaving behind a record of tectonic shifts that still stand tall today.

When I stand on these hexagonal columns, I'm reminded that even the coast was shaped by volcanic forces. The cooling lava here, much like the Deccan Traps, carries with it a history of fire and transformation.

Science Insight: Columnar Basalt Formation

The **columnar basalt** at **St. Mary's Islands** is a rare formation, created when lava contracts and cracks as it cools. This formation is a direct result of volcanic activity and serves as a reminder of the powerful forces that shaped the land.



Yana's limestone towers

Sculpted by Time: The Land You See Today

As I walk across Karnataka today, I see the remnants of that volcanic past everywhere. From the granite peaks of **Savandurga** to the limestone towers of **Yana**, the land is a patchwork of volcanic history. Every rock, every ridge, has a story to tell of molten rock that once flowed here, shaping the landscape over millions of years.

But it's not just the volcanic rock that makes the land so memorable. It's the way that nature and humans have interacted with it. The forts, the villages, the paths that wind through the hills—they all rest atop this land, shaped by volcanoes and sculpted by time.

But it's not just the volcanic rock that makes the land so memorable. It's the way that nature and humans have interacted with it. The forts, the villages, the paths that wind through the hills—they all rest atop this land, shaped by volcanoes and sculpted by time.

And though no volcanoes stand here now, the land still carries their memory. I know that every step I take is a step on land that was forged by fire, shaped by forces that no longer exist but still linger in the stones beneath my feet.

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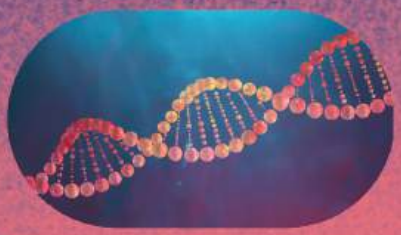
SCIENCE UPDATES

1// **In a wild twist of science and style, researchers are attempting to develop the world's first T-Rex leather handbags. Yes! Can't believe it? Using fossilized collagen from 80-million-year-old dinosaur remains, scientists have recreated leather that's structurally identical to the real thing.**

How? By combining synthetic DNA (designed by The Organoid Company) with Lab-Grown Leather's Elemental-X™ tech. The result: cruelty-free, eco-friendly leather that's fit for the luxury market — minus the cow.

The first dino-derived bags are expected to roar into stores by late 2025, with future plans for car interiors and smart textiles. Sustainable fashion just got prehistoric.

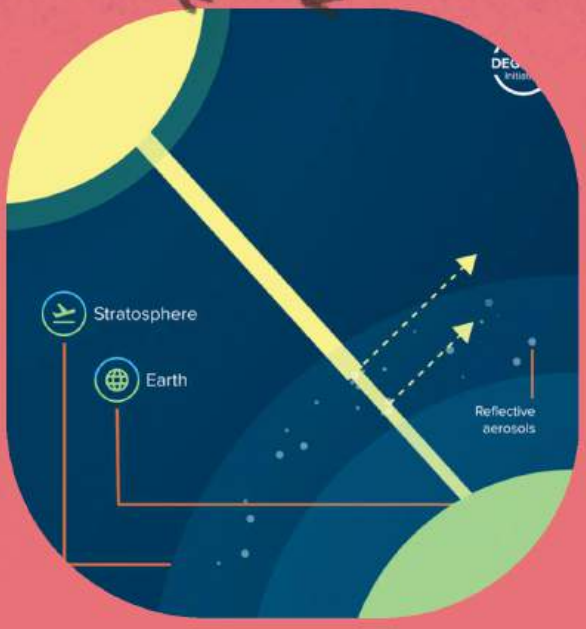
2// **Ever bitten into a wild mushroom and instantly regretted it? Scientists now know why — at least for Lactarius turpis. In a new study, researchers used taste-guided chemistry (yes, tasting the bitterness on purpose!) to isolate the compounds that make this mushroom so unpalatable.**



The culprit? Velleral-type sesquiterpenes — naturally occurring bitter substances that hit your taste buds hard. By combining sensory testing with chemical analysis, the team identified exactly what gives Lactarius turpis its harsh flavor.

The findings offer deeper insight into how bitterness works in nature — and how it could be harnessed (or avoided) in future food design.

3// **The UK is putting £50 million into researching ways to reflect sunlight and cool the Earth — a field called Solar Radiation Management (SRM).**



Some of the wild-sounding ideas include:
1. Spraying reflective particles into the upper atmosphere (like artificial volcanoes)
2. Brightening ocean clouds with sea salt
3. Thinning heat-trapping cirrus clouds

These experiments will be small, reversible, and closely monitored. While SRM could act as a climate emergency backup, critics warn it might disrupt weather and distract from cutting carbon.

Still, it shows how far science is willing to go to tackle climate change.

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