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Message from Editorial Desk

Turn for the Best Angle

As we head further into the 21st century, we find ourselves reflecting on one of humanity's most profound transformations: The sheer number of our population. From a global population of 2.5 billion in 1950 to more than 8 billion today, the growth of our species has been nothing short of remarkable. But with this growth, come pressing questions: What will the population look like in the coming decades? What impact will these numbers have on our planet, resources, and societies? We asked ourselves these questions and more, diving into the trends that are shaping our future—the answers might surprise you.

In this issue, we explore the complex dynamics of crowds and population—a journey through history, trends, and intriguing human behaviour. The way people behave in crowds—whether driven by fear, excitement, or crisis—offers fascinating insights into our collective psyche. We dive into captivating examples of human behavior during moments of uncertainty, from the curious "Monkey Man" of Delhi to the 16th-century Dancing Plague of Strasbourg.

As we analyse crowd behaviour, patterns begin to emerge. And where there are patterns, there are experts who are curious and excited to analyse and deconstruct these patterns.

In this issue, we feature two fascinating theories about crowd behavior and decision-making. We ran some of these experiments on our team, learnt about collective wisdom of a crowd and were pleasantly surprised by the accuracy of the outcomes.

This edition invites you to not only read but to think critically about the trends, behaviors, and ideas that define us as a collective. Thank you joining us in exploring the forces that shape our past, present, and future.

We hope you find it as thought-provoking as we did in creating it.

Param Magazine

Masthead

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Population Patterns:

01. Unraveling Global Growth & Decline Since 1950

The “World Population 1950-2024” feature on Macro Trends provides an insightful overview of global population dynamics.

The first graph indicates a steady increase in population from 2.5 billion in 1950 to over 8 billion by 2023, illustrating the dramatic growth of global population in the past seven decades.

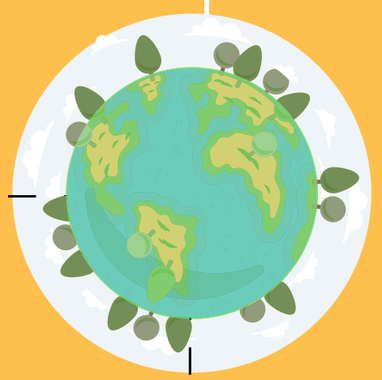
While it took about 12 years for the global population to grow from 7 to 8 billion, it will take about 15 years to reach 9 billion by 2037, reflecting a slowing growth rate. However, fertility rates remain high in lower-income countries, particularly in sub-Saharan Africa, where population growth is currently concentrated.

2023

8,045,311,447

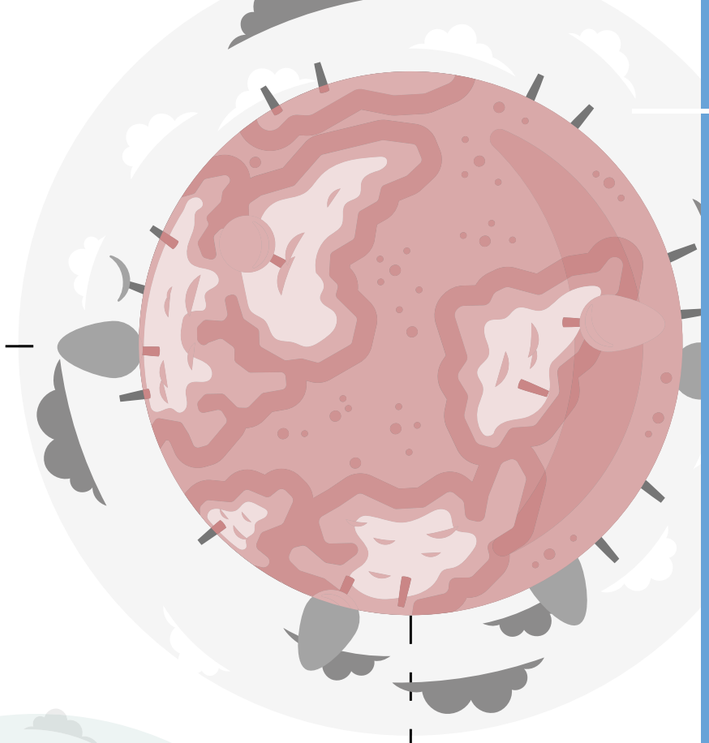
1950

2,499,322,15



This surge was primarily driven by advancements in healthcare, lower infant mortality rates, and longer life expectancies, particularly in the latter half of the 20th century.

DataSet Credits: World Bank, Report ,2011



2100

10,400,000,000

"World Population 1950-2024." Macrotrends.

Half of the global population growth by 2050 is expected in Africa, with sub-Saharan

Africa's population projected to double, driven by the large number of young people entering adulthood.

Despite potential reductions in fertility, Africa will play a key role in shaping global population trends.

In contrast, populations in 61 countries, particularly in Europe and parts of Eastern Europe, are expected to decline by 2050, with some nations seeing reductions of over 15% due to long-term low fertility rates.

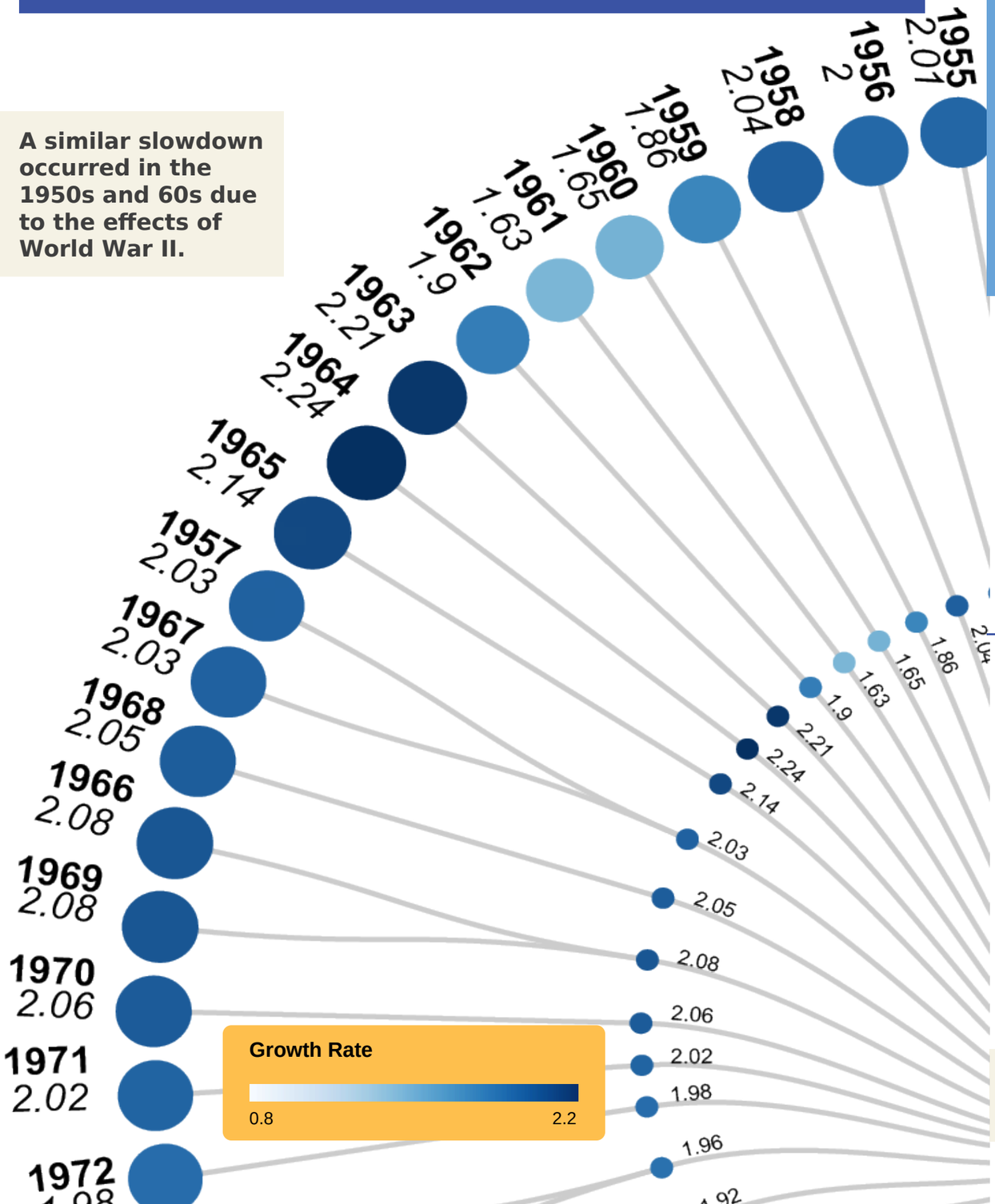
Lower Infant Mortality Rate

Longer Life Expectancies

However, the growth rate has not been constant, with periods of acceleration and deceleration influenced by global events such as wars, pandemics, and economic challenges.

For instance, population growth slowed during the COVID-19 pandemic in the early 2020s, when death rates surged and birth rates dropped in many regions .

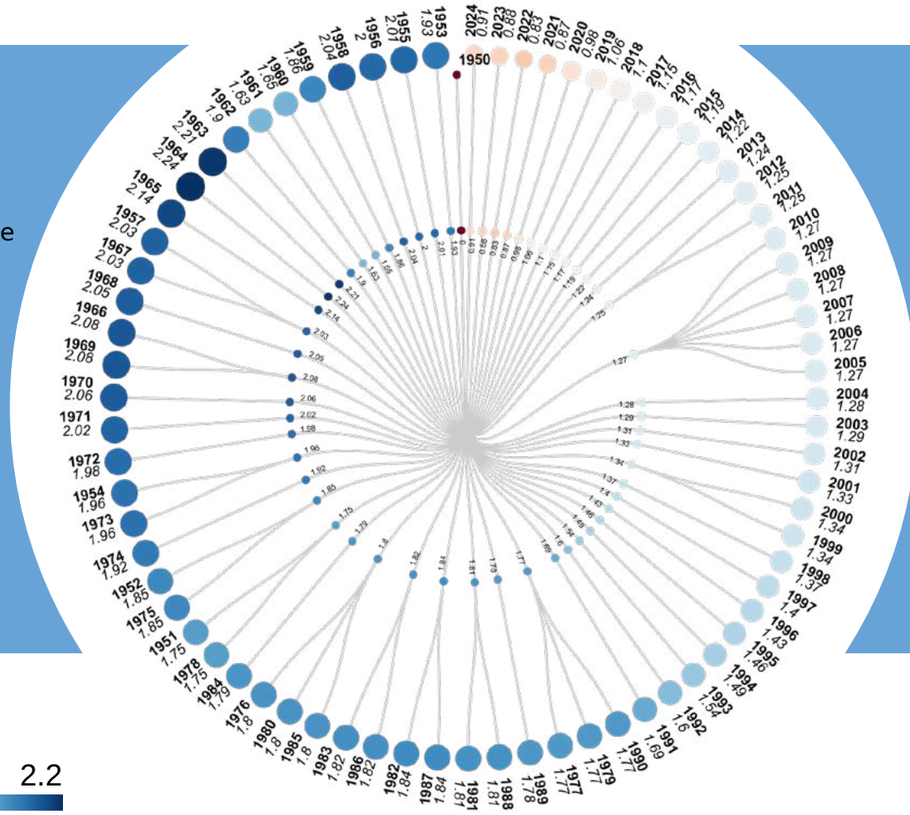
A similar slowdown occurred in the 1950s and 60s due to the effects of World War II.



The second graph tracks the rate of change in population growth over this period.

From the 1960s, when the global population growth rate peaked at over 2% per year, it has gradually decreased to below 1% per year.

Key factors for this decline of this decline include lower fertility rates due to increased access to contraception, improved education, and urbanisation.

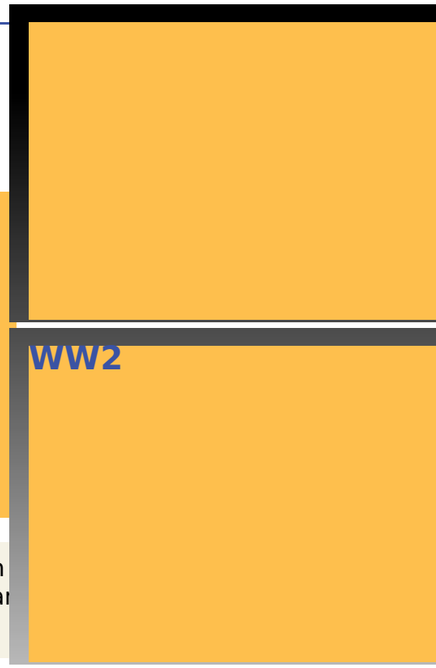


The above visualization shows global population growth from 1950 to 2023.

Circle size and color indicate growth rate, with larger, darker circles representing higher rates based on the legend (Growth Rate).

Values of growth data are displayed in ascending order from 0.0 to 2.2.

Furthermore, major events like the COVID-19 pandemic caused temporary declines in growth rates, with the latter resulting in one of the steepest recent drops in population expansion.

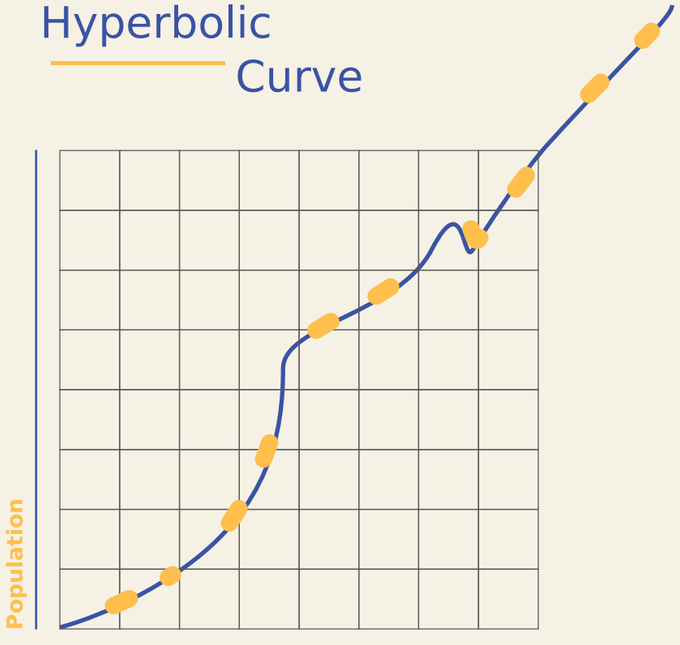


The feature helps us understand that while the global population has risen consistently, the pace of growth is slowing, signalling a approaching decline or stabilising of population.

o1.a

Hyperbolic Population Growth

Hyperbolic Curve



A hyperbolic curve represents a sharp acceleration in growth, where values rise dramatically over time before stabilising.

In terms of population, hyperbolic growth occurred when technological advances and better resource management led to rapid population increases.

This was especially prominent between the 1950s and 1980s, when the global population doubled within 37 years.

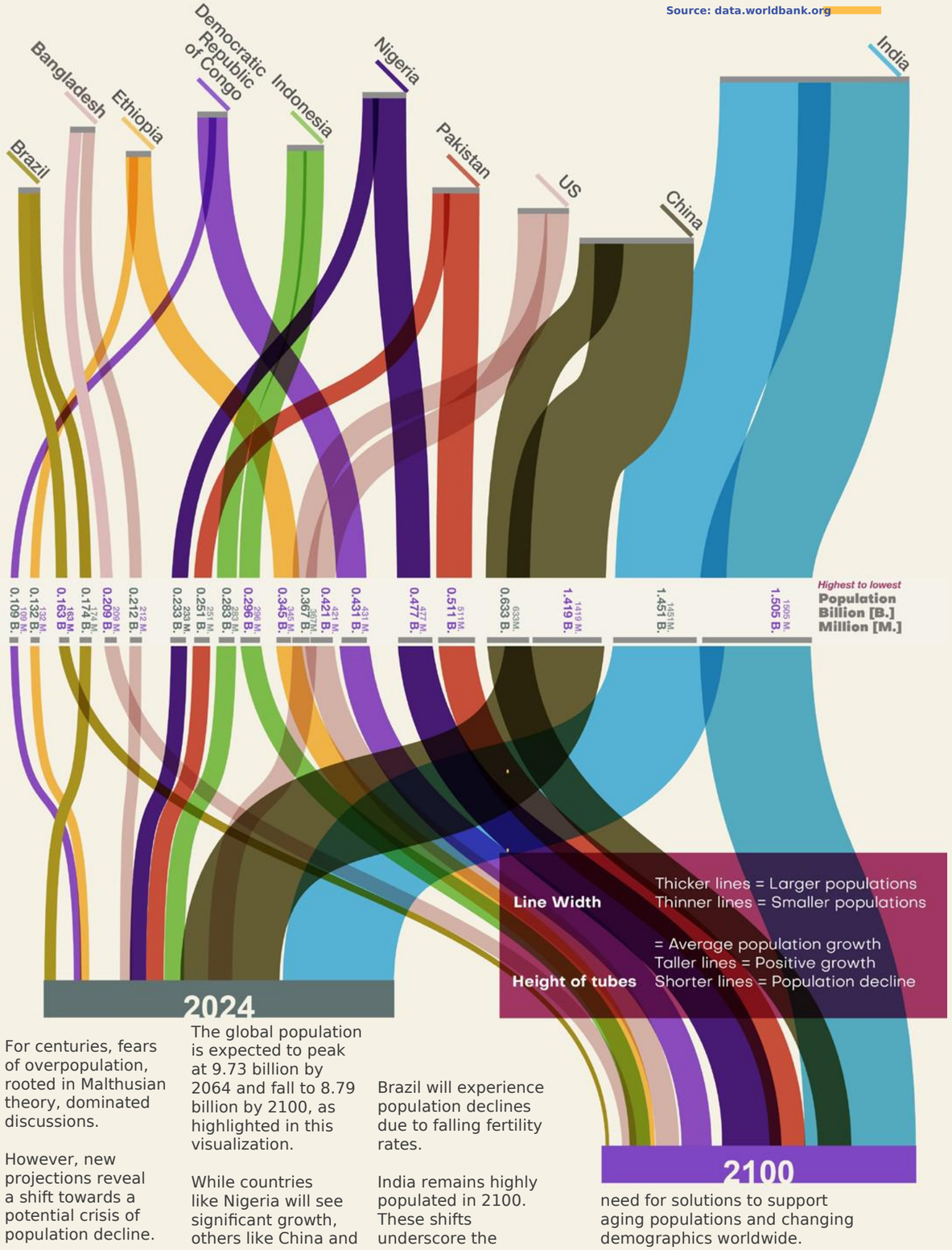
At its peak in the 1960s, the growth rate reached 2.1%, but it has since slowed due to factors like better education and access to contraception. The UN now projects that the population will stabilise or decline by the end of the century

A New Population Crisis:

Decline Beyond 2100

Global Population Projections: 2024 vs 2100

Source: data.worldbank.org



For centuries, fears of overpopulation, rooted in Malthusian theory, dominated discussions.

However, new projections reveal a shift towards a potential crisis of population decline.

The global population is expected to peak at 9.73 billion by 2064 and fall to 8.79 billion by 2100, as highlighted in this visualization.

While countries like Nigeria will see significant growth, others like China and

Brazil will experience population declines due to falling fertility rates.

India remains highly populated in 2100. These shifts underscore the

need for solutions to support aging populations and changing demographics worldwide.

Humanity’s Footprint:

Understanding Population Density and Its Impact

o1.b

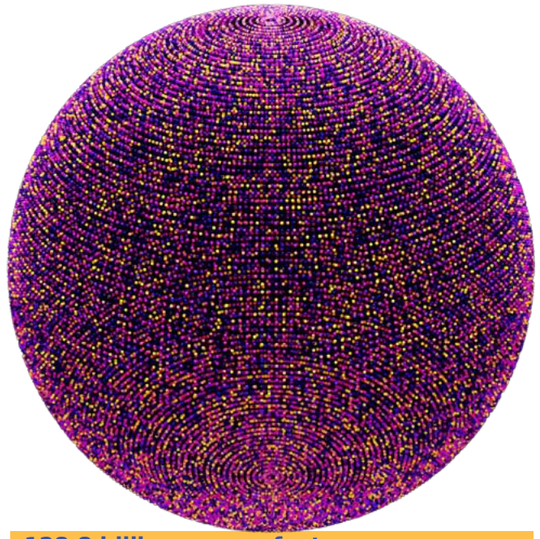
resouce: United Nations Department of Economic and Social Affairs

To put this figure into perspective, let’s compare it to the land area of Jamaica

Imagine the entire human population, billions of individuals, packed together in a single, densely populated area. How much space would we need? Where could we fit? This thought experiment is a stark reminder of the finite resources of our planet and the increasing pressure on our living spaces

If we were to allocate just 4 x 4 feet of space to each person, a seemingly small amount, the total area required would be approximately 128.8 billion square feet.

4 x 4 sq.feet / Person

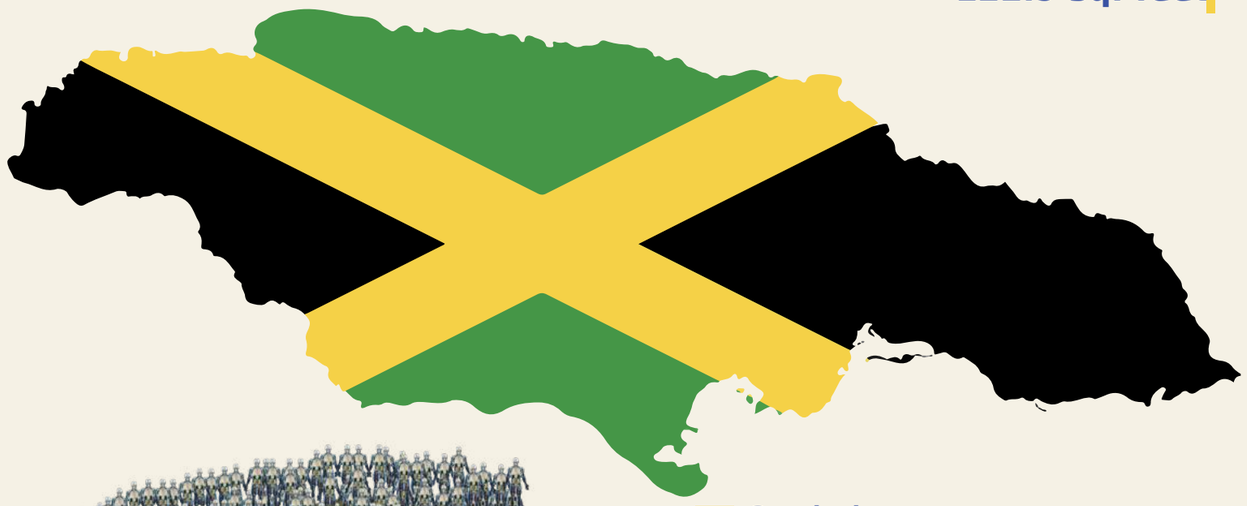


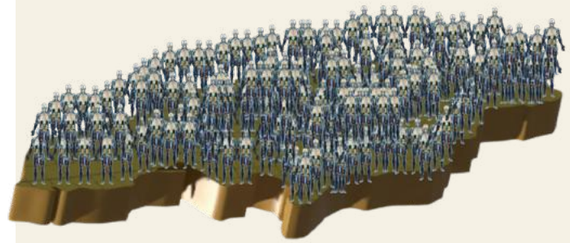
128.8 billion square feet

The Implications of the data reveal a startling reality - even with a seemingly minimal allocation of space, accommodating the entire world population in a single location would require an area comparable to a small country or a large state. This highlights the increasing pressure on our planet’s resources and the urgent need for sustainable urban planning and development.

slightly larger than Jamaica.

Jamaica: 4,411 sq. miles
122.9 sq. feet





Conclusion

This simplified thought experiment highlights both the challenges and opportunities we face, stressing the need for innovative solutions to ensure a sustainable future.

02.

Emergent Behaviour of Crowds

Introduction

In times of crisis, human beings have a remarkable ability to do two things: panic, and get really creative with it.

There's nothing like a little fear, confusion, and boredom to get the collective imagination running wild.

From dancing plagues to toilet paper shortages, history is full of strange behaviours sparked by mass hysteria.

Buckle up for a wild ride through history's most entertaining examples of crowd madness—where fear, rumour, and a dash of chaos have given us some of the most peculiar moments ever seen.

Monkey Man Madness:

How Fear Fueled an Urban Folklore

o2.a

In 2001, Delhi was gripped by panic over reports of a strange creature dubbed the "Monkey Man." Eyewitnesses described a dark, monkey-like figure with metal claws that would leap across rooftops and attack people at night.

These sightings caused widespread fear, with some residents even suffering injuries in the ensuing chaos. Despite extensive search by the police, no Monkey Man was ever caught, and the mysterious figure was never explained.

The Monkey Man phenomenon is a prime example of emergent crowd behaviour driven by fear & rumour.

As stories spread, more people claimed to have seen the creature, leading to mass hysteria. This collective anxiety fuelled further reports, with the media intensifying the panic by covering each new reported sighting in detail.

Although the injuries were caused amidst the chaotic crowds, the belief in the Monkey Man persisted. This event highlights how, under the right conditions, fear can spread rapidly, and collective imagination can easily create widespread panic, even without any real evidence.

The Monkey Man remains a curious chapter in urban folklore, showcasing how emergent behaviour can spiral out of control when fuelled by rumour and fear.

When Ganesha Drank Milk

o2.b

In September 1995, a remarkable event captured the attention of people across India and beyond: statues of Lord Ganesha, the Hindu deity, appeared to be drinking milk. It began in a temple in Delhi, where a worshipper offered milk to the statue, and the milk vanished in plain sight

Word spread rapidly, and soon, people across the country were lining up at temples, offering spoons of milk to Ganesha statues and witnessing what many believed was a miracle.

Source: BBC News

Whether divine intervention or an unexplained phenomenon, the event created a wave of fervor, awe, and devotion. Scientists offered explanations, suggesting capillary action might be the cause, where the stone statues absorbed small amounts of liquid.

However, this did little to diminish the spiritual gratification felt by millions.

The Ganesha milk miracle stands as a fascinating example of how shared belief and collective action can create powerful, memorable moments.

For a brief time, people from all walks of life came together, united in wonder.

Whether it was a sign from the divine or simply an unexplained natural event, it’s a testament to how collective faith can influence millions to believe..

Can’t Stop the Music:

The Dancing Plague That Took Over Strasbourg

In 1518, the people of Strasbourg were struck by something very strange—a dancing plague. It all started with a woman named Frau Troffea, who suddenly began dancing in the streets.

Soon, more and more people joined her, dancing non-stop for days. Some danced until they collapsed from exhaustion, and a few even died.

Strasbourg, (France) 1572

Credit: Pieter Breughel the Younger, via Wikimedia Commons

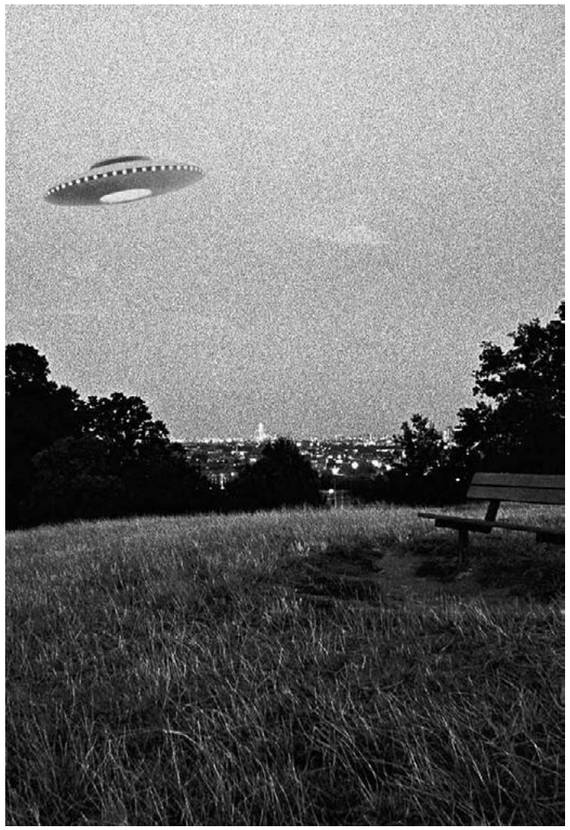
Whatever the reason, the Dancing Plague remains one of history’s oddest mysteries.

It shows how stress and fear can sometimes make people behave in ways that seem impossible to explain.

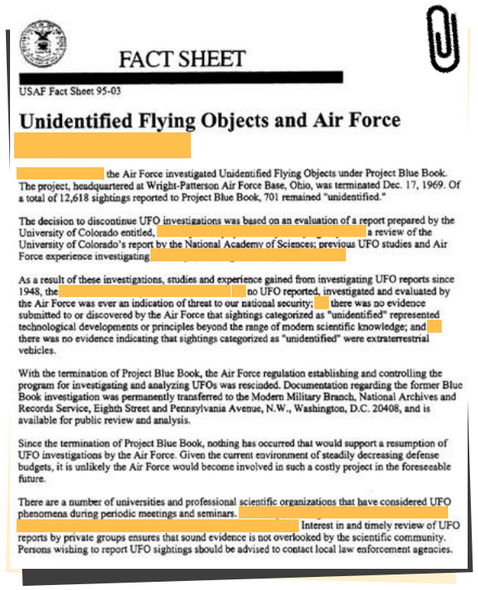
Nobody really knows why this happened. Some think it was a case of mass hysteria, where the stress of famine and sickness caused people to act out in strange ways. Others believe it might have been caused by a mould on bread that made people hallucinate and behave strangely.

Chasing Lights:

How UFO Mania Took Over America



Public interest in UFOs, however, was driven by more than just strange lights in the sky. The Cold War atmosphere of fear, combined with sensational media coverage, fuelled a kind of collective fascination—or even panic—about extraterrestrial visitors. As more people claimed to see UFOs, the number of reports skyrocketed, creating an emergent phenomenon where crowd behaviour fed into itself.



FACT SHEET

USAF Fact Sheet 95-03

Unidentified Flying Objects and Air Force

the Air Force investigated Unidentified Flying Objects under Project Blue Book. The project, headquartered at Wright-Patterson Air Force Base, Ohio, was terminated Dec. 17, 1969. Of a total of 12,618 sightings reported to Project Blue Book, 701 remained "unidentified."

The decision to discontinue UFO investigations was based on an evaluation of a report prepared by the University of Colorado entitled, a review of the University of Colorado's report by the National Academy of Sciences; previous UFO studies and Air Force experience investigating

As a result of these investigations, studies and experience gained from investigating UFO reports since 1948, the no UFO reported, investigated and evaluated by the Air Force was ever an indication of threat to our national security; there was no evidence submitted to or discovered by the Air Force that sightings categorized as "unidentified" represented technological developments or principles beyond the range of modern scientific knowledge; and there was no evidence indicating that sightings categorized as "unidentified" were extraterrestrial vehicles.

With the termination of Project Blue Book, the Air Force regulation establishing and controlling the program for investigating and analyzing UFOs was rescinded. Documentation regarding the former Blue Book investigation was permanently transferred to the Modern Military Branch, National Archives and Records Service, Eighth Street and Pennsylvania Avenue, N.W., Washington, D.C. 20408, and is available for public review and analysis.

Since the termination of Project Blue Book, nothing has occurred that would support a resumption of UFO investigations by the Air Force. Given the current environment of steadily decreasing defense budgets, it is unlikely the Air Force would become involved in such a costly project in the foreseeable future.

There are a number of universities and professional scientific organizations that have considered UFO phenomena during periodic meetings and seminars. Interest in and timely review of UFO reports by private groups ensures that sound evidence is not overlooked by the scientific community. Persons wishing to report UFO sightings should be advised to contact local law enforcement agencies.

Source: Official USAF document

The U.S. government’s investigation into UFOs began in earnest during the Cold War, when reports of strange flying objects spiked.

This led to several formal inquiries, the most notable being Project Blue Book, which ran from 1947 to 1969. Over 12,000 sightings were analysed, with most explained as weather balloons, aircraft, or natural phenomena. Still, around 700 cases remained officially “unidentified.”

The government investigations, while debunking most sightings, paradoxically helped cement the idea that there was something worth hiding.

UFO stories became a part of pop culture, reinforcing the idea that we might not be alone. This is a classic example of how human behaviour can create and spread phenomena, where belief in the extraordinary grows stronger as more people buy into it—even if the evidence doesn’t always support these claims.

Still from The Ilth Green. FROM RYAN BRUCE LEVEY FILM DISTRIBUTION / EVERETT COLLECTION

From Panic Buying to Sourdough:

o2.e How a Global Crisis Turned Us Into Bakers, Gardeners, and Pet Enthusiasts

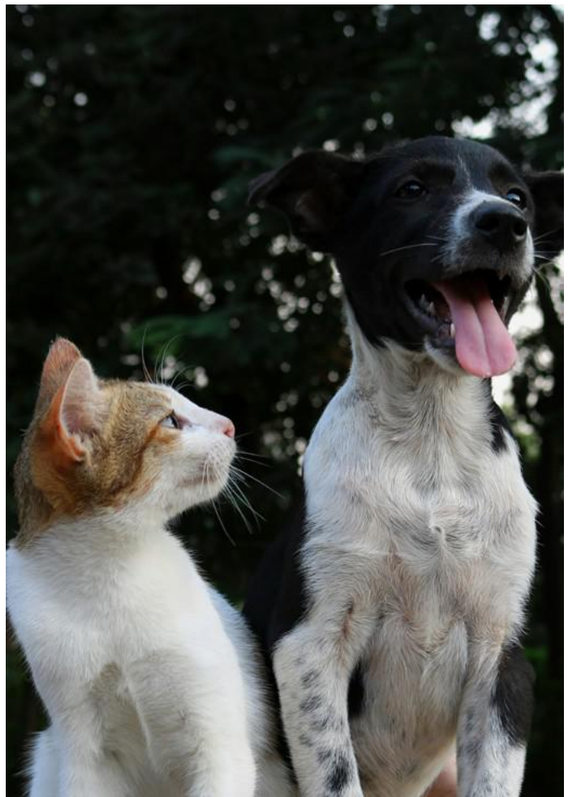
During the COVID-19 pandemic, people worldwide found some truly unique ways to cope with lockdown life, proving once again that humans are really good at finding new hobbies—and hoarding toilet paper.

Panic Buying

Panic Buying: As soon as the word “pandemic” hit the airwaves, 71% of Americans promptly decided that toilet paper was now more precious than gold. Sales jumped an astonishing 845% in March 2020, leaving shelves emptier than a Monday morning office meeting. Globally, the trend spread faster than the virus itself, with governments having to step in and say, “Alright, folks, you really don’t need that much TP.”

Pet Adoption Boom

Pet Adoption Boom: The pandemic also saw a furry phenomenon as 23 million U.S. households decided now was the perfect time to adopt a pet. By mid-2021, 90% of dog owners and 85% of cat owners were still happily sharing their homes—and probably their beds—with their pandemic pals. Shelters hit record lows, not from less need but because everyone wanted a furry friend for Zoom meetings and quarantine cuddles.



Baking Craze

Baking Craze: If you didn’t bake sourdough during lockdown, did you even really quarantine? Google searches for “sourdough bread” shot up 400%, and yeast sales soared 647%, creating a global shortage of the stuff. People worldwide took to their ovens, convinced, they’d emerge as the next master bakers (and instead, emerging with kitchens full of flour-dusted chaos).

Home Gardening Surge

When baking wasn’t enough, people turned to home gardening. During COVID, Lalbagh’s Horticulture Department in Bengaluru recorded its highest-ever sales of seeds and saplings, as backyard plots were transformed into “pandemic gardens” or “victory gardens.” Whether driven by a need for self-sufficiency or simply a desire to avoid the grocery store, millions turned to cultivating their own veggies, proving that ultimate joy can be found in just growing tomatoes & chillies.

In the end, these trends were less about survival and more about making lif during a pandemic a little more… well, peculiar. After all, if we’re going to face a global crisis, we might as well bake bread, hoard seeds, and adopt a cat while we’re at it.

A Tale of Two Futures

o0.1

Our Choices, Our Future:
A Glimpse of
What's to Come

These AI-generated images illustrate two futures: one of harmony between humanity and nature, and another of overpopulation and neglect.

According to the World Bank data, By 2100, the world population is projected to reach 10 billion.

The choices we make today wi shape tomorrow's world.

Will we protect our planet or suffer the consequences?

Science Experiment

Social scientists have long been fascinated by how groups make decisions.

Two well-known concepts that explore this are
Wisdom of the Crowd &
Cognitive Hierarchy Theory

Let’s take a quick look at some key experiments that bring these ideas to life.

The Cognitive Hierarchy Theory

Cognitive Hierarchy Theory is all about how people think about others’ thinking. It suggests that people reason at different levels.

Some might make random choices (“level 0”), while others (“level 1”) try to predict what the "level 0" ones will do.

Higher levels (“level 2” and beyond) try to outsmart those at lower levels by anticipating their moves.

others are thinking. The game demonstrates how different levels of reasoning interact in decision-making.

These experiments reveal how group dynamics and different ways of thinking shape outcomes.

But what happens when we test these ideas ourselves?

That’s where our story begins!

*o1 Experiment

o3.a

guess here

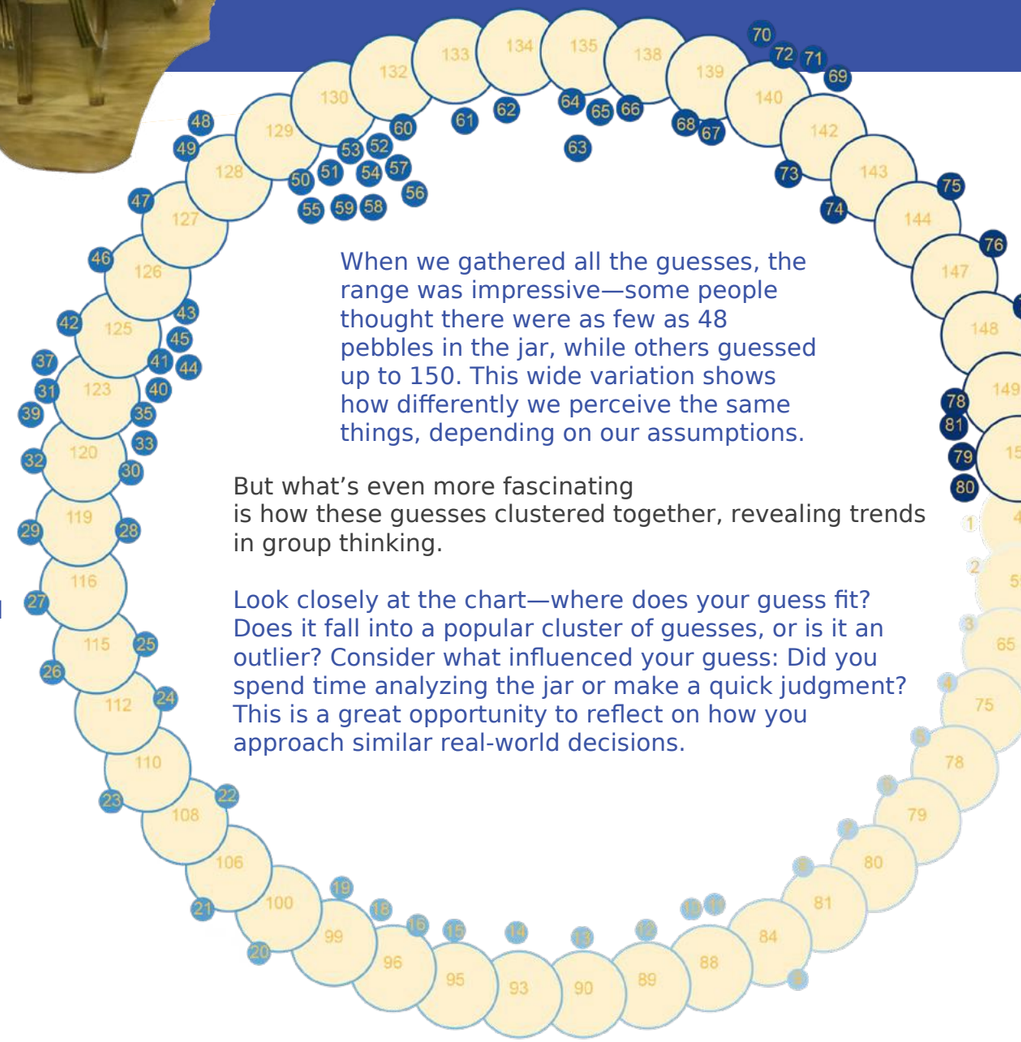
Write down your guess!

you will find answer on next page [top right corner]

The principles of crowd wisdom are used in everything from stock market predictions to political polling and even online ratings.

Facts

Used in Real-World Decisions



When we gathered all the guesses, the range was impressive—some people thought there were as few as 48 pebbles in the jar, while others guessed up to 150. This wide variation shows how differently we perceive the same things, depending on our assumptions.

But what's even more fascinating is how these guesses clustered together, revealing trends in group thinking.

Look closely at the chart—where does your guess fit? Does it fall into a popular cluster of guesses, or is it an outlier? Consider what influenced your guess: Did you spend time analyzing the jar or make a quick judgment? This is a great opportunity to reflect on how you approach similar real-world decisions.

Take a look at the chart. The larger circles represent unique guesses, and the smaller circles around them show how many participants made those guesses.

Where does your guess fit in this range?

The Friday Brain Teaser

*o2 Experiment

o3.b

The Office Guessing Challenge

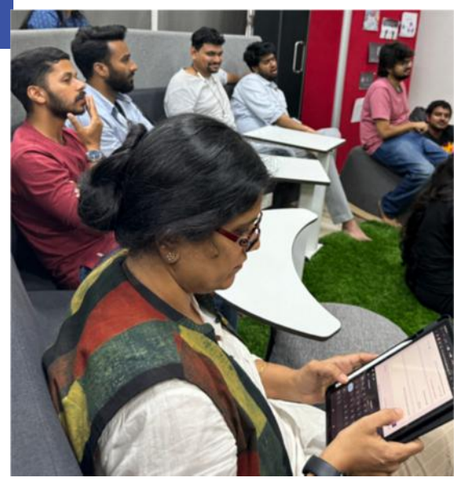
A group of office workers, ready for a break on Friday afternoon, take on a simple yet tricky challenge: guess a number between 0 and 100. The twist? You need to guess 2/3 of the average guess. A playful game quickly turns into a strategic guessing battle.

A group of office workers on a Friday afternoon, buzzing from the week’s work, eager for a break from the usual grind, enter a game—simple enough, but devilishly tricky. The challenge? Guess a number between 0 and 100. Sounds easy, right?

But here’s the catch: Your goal is to guess 2/3 of the average guess of everyone else.

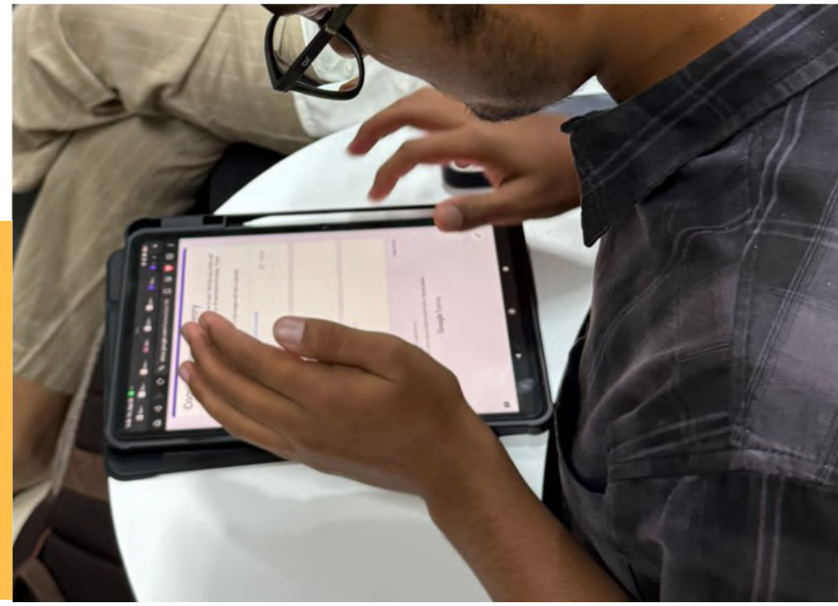
So, it’s not just about what you think; it’s about what you think they think, and what they think you think, and… well, you get the idea.

Conducted by: Pranav



We set the stage. Everyone understood the given example—if the average guess is 60, you should aim for 40 (because 2/3 of 60 is 40). Then, a tablet was passed around, and the guessing began.

The tablet was passed around like an office relic, collecting guesses—some a bit too hopeful. Amid laughter and groans, a science joke broke the air: “Why can’t you trust atoms? It's because they make up everything!” It was just another playful moment, keeping the office camaraderie alive.



Now, to the analysis. Once the dust settled, and all the numbers were in, the true nature of the office minds revealed itself in the form of three distinct groups.

The Overthinkers' Club

o3.b.1

Here we have those who guessed too low, caught in a whirlpool of cognitive overdrive. They thought, "If everyone else is going to reduce their guess, I'll reduce mine even more!" And reduce they did, to the point where some guesses (ahem, 10 and 16) could barely see the actual target of 25.28 in the rearview mirror.

These overthinkers tried to anticipate the anticipations of others, spiraling down the rabbit hole of logical layers.

The Underthinkers' Guild

o3.b.2

At the other end of the spectrum, we had the underthinkers. These folks kept it simple, perhaps a little too simple, and went for guesses well above the 2/3 mark.

Some guessed in the 50s and 60s, perhaps thinking the average would be higher than it turned out to be. Their logic? "Why not! It's just a number." In retrospect, their guesses were more optimistic than a cat hoping for a second breakfast.

The Sweet Spot Sages Guild

o3.b.3

Then, of course, there were the five participants who landed just about where they needed to be—between 22 and 28. These individuals struck the perfect balance between thoughtful consideration and not falling into the trap of overthinking. They danced the delicate dance of 2/3 logic and emerged unscathed. We like to imagine they felt an inner glow of pride, a fleeting sense of having solved the puzzle of the universe—at least, for that one moment.

Patterns, Banter, and the Pursuit of Numbers

What made this whole exercise so delightful wasn't just the math (though math can be delightful, in small doses). It was the interaction—the shared laughter over ridiculous guesses, the gentle teasing of those who aimed too high or too low, and the way people tried to outwit each other in the friendliest way possible.
The guesses revealed more than just numbers. They revealed how we approach problems: some of us dig deep, thinking five moves ahead, while others stick to the surface, trusting their instincts. And then there's the middle ground, where the truly wise seem to live, comfortably nestled between complexity and simplicity.

Perfect End to the Week

As the tablet came back for the final tally, the team shared some banter and jokes.

The numbers varied, but the real win was stepping away from work, enjoying a confusing yet fun game, and learning a bit more about their colleagues—and maybe less about numbers.

from month of August

Unlocking Memory Mechanisms

Source: newsbytesapp.com

Neuroscientists have made a significant breakthrough by identifying two molecules, PKMzeta and KIBRA, crucial for maintaining long-term memory storage in the brain. These molecules are key to preserving the neural connections formed during learning. KIBRA acts like a tagger, marking the important synapses—the communication points between neurons—where new information is stored. It highlights which neural pathways are essential for retaining memories, especially those linked to intense learning or significant experiences.

PKMzeta, meanwhile, functions as a stabilizer, ensuring that the connections tagged by KIBRA stay strong and intact over time. This reinforcement by PKMzeta allows memories to persist, preventing important information from fading away, even over extended periods.

Disrupting these molecules can erase memories, even month-old ones. This discovery may lead to treatments for memory disorders.

Bio-Robot Innovation

Engineers at Cornell University have used mushrooms to control a robot by turning natural electrical signals from fungi into movements.

Mycelium from mushrooms was grown on a 3D structure, and when exposed to UV light, it sent signals that moved the robot's legs.

Though challenges like weakening signals remain, the technology could be useful in areas like farming and security.

Source: inshorts.com

Mini-Moon Visit

A small asteroid, 2024 PT5, will be Earth's second satellite temporarily. It will orbit the Earth from September 29 to November 25. It's estimated to be between 16 and 138 feet wide and will stay at a safe distance of 2.6 million miles. After this short visit, it will return again in 2055 and 2084.

Source: businesstoday.in

Radiation-Eating Fungus

The world’s fastest electron microscope

Physicists at the University of Arizona have developed the world’s fastest electron microscope, the “attomicroscope,” capable of capturing events in just one quintillionth of a second.

Built on Nobel-winning research, it can freeze time to capture electron motion at one attosecond.

The device works by firing ultraviolet light to generate ultra-fast electrons for imaging.

Source: newsbytesapp.com

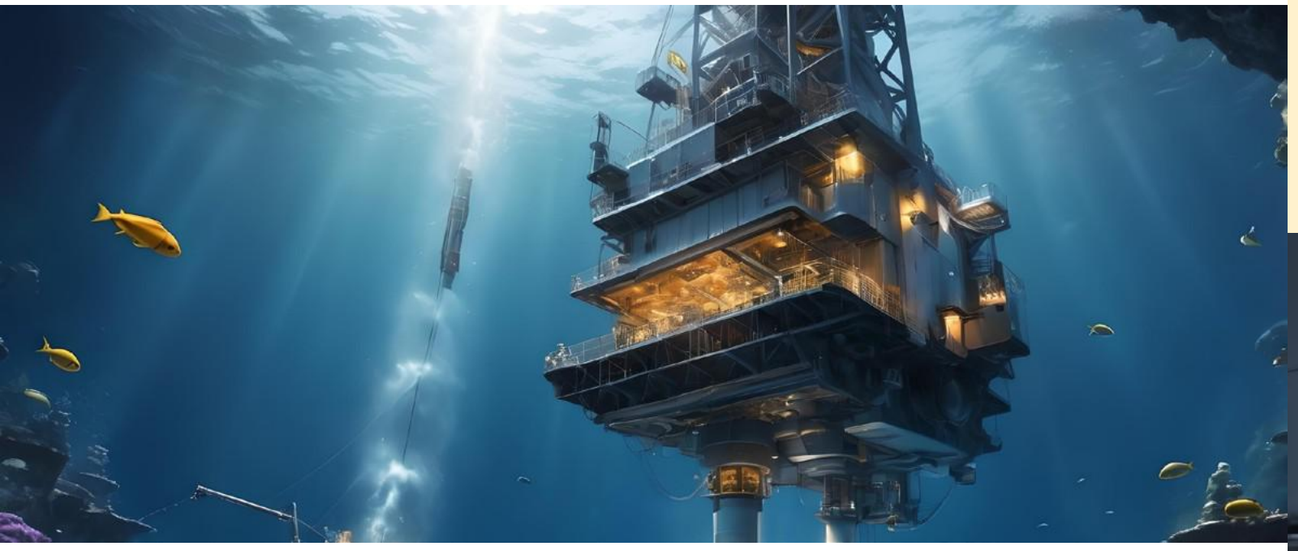
Source: breezyscroll.com

The world’s first nuclear clock

Scientists at JILA have developed the foundation for the world’s first nuclear clock, offering greater precision than atomic clocks.

Using signals from an atom’s nucleus, this breakthrough invention could improve GPS, communications, and accuracy in timekeeping.

All components are ready, with final adjustments underway to optimise performance.



Deep Earth Samples

Source: ddnews.gov.in

how its interaction with seawater, aids in releasing hydrogen and methane, could support microbial life, offering clues about Earth’s geological processes and the potential origins of life.

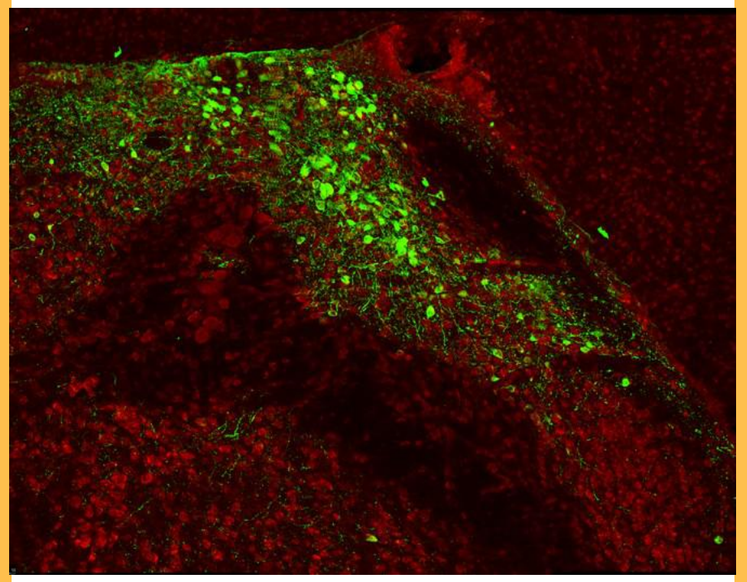
Param Science Photography Contest

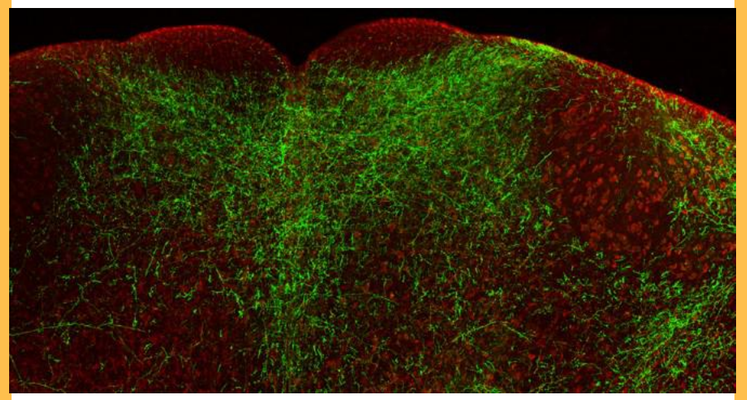
Celebrating the Beauty of Science

05.

The Param Science Photography Contest invited participants to capture the beauty and creativity of science through stunning visual media. Open to those engaged in scientific research or education, the contest explored themes like the Micro World, Macro World, Abstract World, and AI-generated media.

With no limit on entries, submissions were judged on creativity, storytelling, and visual impact. Winners received cash prizes and had their work featured at events and on digital platforms. Let's take a look at some of the winning photographs!





Asmita Sarkar

Srishti School of Design, Bangalore

Chronic pain is an affliction that bears significant burden in our daily lives. It's difficult to treat and hence is the focus of intense biomedical research.

The submitted images (i and 2) consist of fluorescent microscopy images of the neural circuitry based on a nucleus known as the parabrachial nucleus. This nucleus plays a multidimensional role in how pain is perceived and how pain affects us. Images were generated at Barik Lab. Images 3 and 4 are an artistic transformation by Asmita Sarkar that creatively displays an inner world of pleasure and pain.

Tishya Sarma Sarkar

Phd Scholar
IIT Kharagpur

Imagine you're Sherlock Holmes, but instead of solving crimes in Victorian London, you're investigating the internal workings of a printed circuit board (PCB). Your magnifying glass: an X-ray machine. Welcome to the world of PCB X-ray forensics. When you X-ray an original PCB, you encounter a precise symmetrical blueprint. A counterfeit PCB, on the other hand, tries to masquerade as the original, but under the X-ray, its secrets are laid bare. You'll notice sloppy soldering, inconsistent trace widths, and components that look as if they were installed after a few too many cups of coffee. It is like comparing a Renaissance painting to a five-minute doodle. In this picture, the PCB blueprint on the left belongs to an original Arduino UNO board, whereas the blueprint on the right belongs to a counterfeit Arduino UNO. The inconsistencies and anomalies in the counterfeit PCB is evident from the blueprint, which includes change of metal traces, exclusion of components, and inconsistent die dimensions of an integrated circuit (IC).

During my Bangalore days, my camera and office bag were almost identical. On such a day, while coming out of the office, I saw the beautiful view of light streaking through the trees in the opposite compound. It is not mist or smoke that makes the view, but the dust and pollution in the air. Though fresh air is a basic need for life on earth, it is hard to get it in our metro cities.

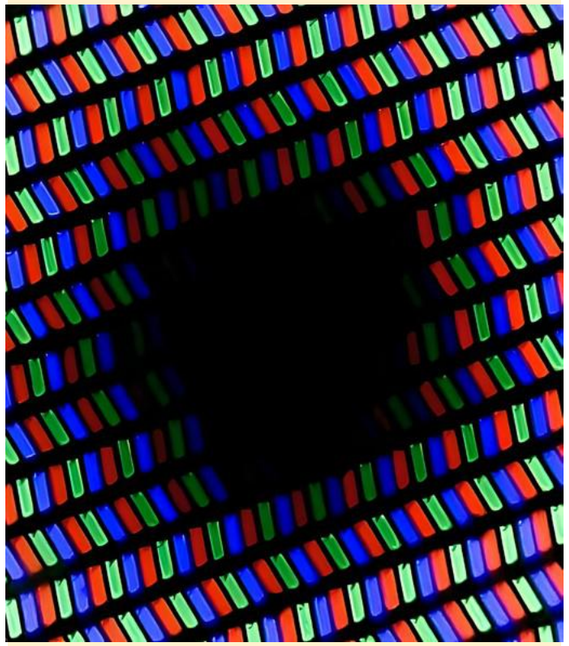
Anand MN

Researcher
IIA Kodaikanal

Suraj Jagtap

Researcher
Indian Institute of Sciences

Eclipse! That's a full stop on the white screen.



October Innovation Fest

[redacted]

5th & 6th of October

Venue: BG Jagdeesh Science Centre, National College Jayanagar

11:00 AM to 02:00 PM

Registration Fee: INR 5300

Age Group: 12 years & Above

Experience the excitement of building, integrating, and testing your own drone with expert guidance from aerospace engineers. Learn to fly and navigate it through obstacles, then take your drone home along with an RC transmitter. Dive into the world of drones and unlock new skills in this hands-on workshop!

[redacted]

13th October

Venue: Parsec Jayanagar

In today's evolving educational landscape, fostering critical thinking, creativity, and a solid foundation in science is crucial. This workshop uses simple, repurposed materials to create engaging, hands-on learning experiences. Participants will develop problem-solving skills and gain deeper insights into scientific concepts through fun, interactive activities.

11:00 AM to 01:00 PM

Registration Fee: INR 350

Age Group: 10 years & Above

Model Rocketry

9th & 20th October

Venue: Annaiah Auditorium, Yuvapatha, Jayanagar 4th Block

11:00 AM to 02:00 PM

Registration Fee: INR 1800

Age Group: 10 years & Above

This workshop on model rocketry combines theoretical learning, practical demonstrations, and hands-on activities, where participants will learn, fabricate, and test their own rocket motors. It offers an immersive experience designed to introduce the fundamentals of rocketry to students with an interest in aerospace.

[redacted]s

26th October

Venue: Annaiah Auditorium, Yuvapatha, Jayanagar 4th Block

11:00 AM to 01:00 PM

Registration Fee: INR 500

Age Group: 10 years & Above

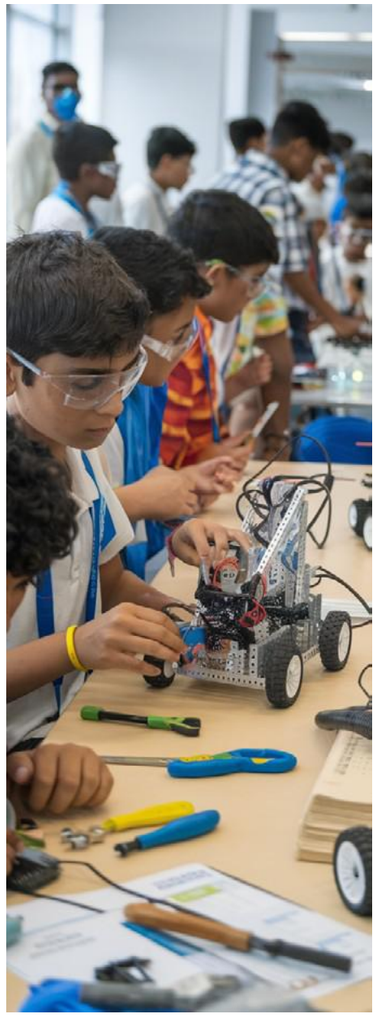
Join our exciting 'Science for Kids' workshop where young participants get hands on experience in creating fun science crafts and invigorating experiments that ignite curiosity and creativity through interactive learning.

[redacted]

27th October

Venue: Annaiah Auditorium, Yuvapatha, Jayanagar 4th Block

11:00 AM to 02:00 PM



Registration Fee: INR 1200

Age Group: 10 years & Above

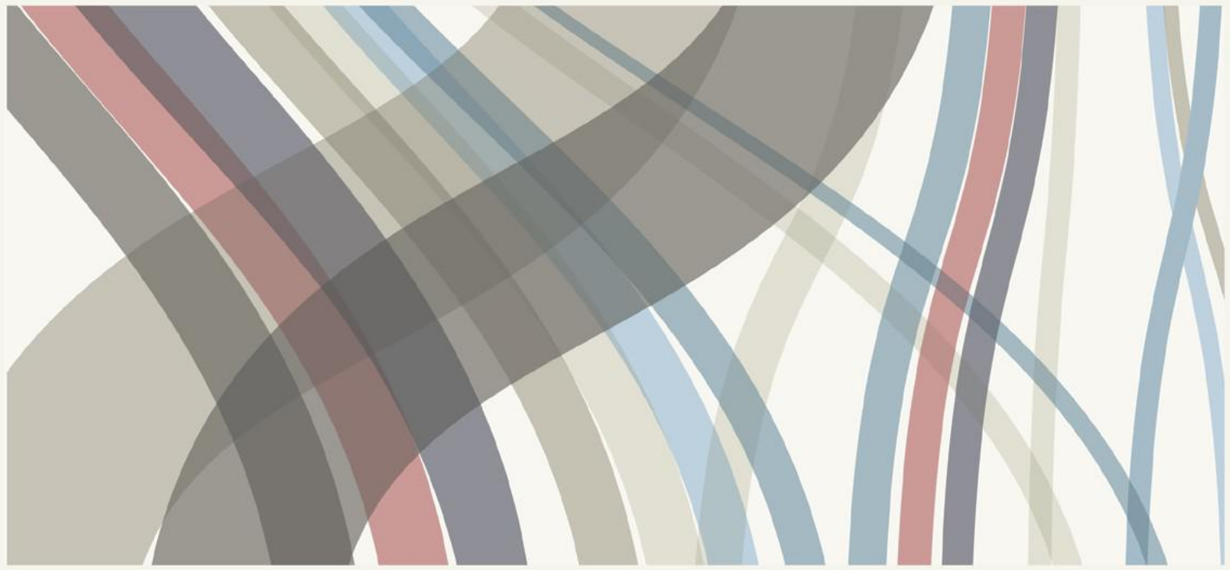
This robotics workshop combines theoretical learning with hands-on activities, allowing participants to design, build, and program their own robots. It provides an engaging introduction to fundamentals in robotics, fostering creativity, problem-solving, and teamwork while making technology and engineering concepts accessible to all.

robotics, and more await!

06.

Register Here

Populations pulse with life—shaping ecosystems, driving evolution, & revealing the hidden rhythms of survival. Explore the science behind growth, balance, & the forces that define our future.



On the cover: a striking data visualization that compares population growth between 2024 and 2100—just 76 years apart.

The projections are astonishing, revealing unexpected shifts in global demographics.

Curious? Dive deeper on page 9.