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Monthly magazine for SEPTEMBER compiled by MINI SETHI and SIMRAN BHATIA



IDENTIFY THE SCIENTIST

- Born 26 November 1921
- Died 9 September 2012
- Often called Father of the White Revolution of India, Milkman of India
- Awards
 - World Food Prize (1989)
 - Order of Agricultural Merit (1997)
 - Padma Vibhushan (1999)
 - Padma Bhushan (1966)
 - Padma Shri (1965)
 - Ramon Magsaysay Award (1964)

- Made India self-sufficient in edible oils.
- Emphasised on the health of cattle and development of vaccines etc.
- Set up GCMMF (Gujarat co-operative milk marketing federation)
- He pioneered the Anand model of dairy cooperatives and replicated it nationwide
- Operation Flood, launched on 13 January 1970, was the world's largest dairy development program.
- Transformed India from a milk-deficient nation into the world's largest milk producer, surpassing the United States of America in 1998
- Doubled the milk available per person in India and made dairy farming India's largest self-sustainable rural employment generator.
- Created Amul as a brand in India as well as abroad.
- Founded IRMA – Institute of Rural Management Anand in 1979, to pass on the knowledge to future generations and to place rural India on the front map.



WOMEN EMPOWERED

Anuradha TK, Geosat Program Director at ISRO Satellite Center

An Indian scientist and project director of ISRO, specialised in communication satellites, she has worked on the launches of the satellites GSAT-12 and GSAT-10. She is the senior most female scientist at ISRO, having joined the space agency in 1982, and is also the first woman to become a satellite project director at ISRO.

Anuradha believes that seeing so many Indian women working at ISRO is an inspiration for others. Anuradha was mere 9 years old when she started thinking and learning about the universe and space. She got inspired by the first mission to the moon. When Anuradha had joined ISRO, only a few women were working in this field. She used to dream of traveling to space when she was young.



Ritu Kirdhal, Deputy Operations Director, Mars Orbiter Mission

An Indian scientist working with the Indian Space Research Organization (ISRO), has been called as a "Rocket Woman" of India. Born in Lucknow, she is an aerospace engineer and has worked for many other earlier ISRO projects.

From childhood, Ritu had a vision to touch the sky. She started working with ISRO when she was mere 18. The Mangal Mission occurred in 2012 and scientists just had 18 months for preparation. Ritu attributes the success to teamwork.



**Nandini Harinath, Deputy Operation Director,
Mars Orbiter Mission**

Nandini Harinath a rocket scientist at ISRO's Satellite Centre in Bengaluru too was a part of the Mars Orbiter Mission, Maangalyaan. She has co-authored a research paper on mission planning, analysis and operations—Outline of key components.

Nandini first got inspired towards space after watching the popular Star Trek series on television. She has worked on 14 missions over 20 years at ISRO and is the Project Manager, Mission Designer apart from serving as deputy operations director on the Mars Orbiter Mission.



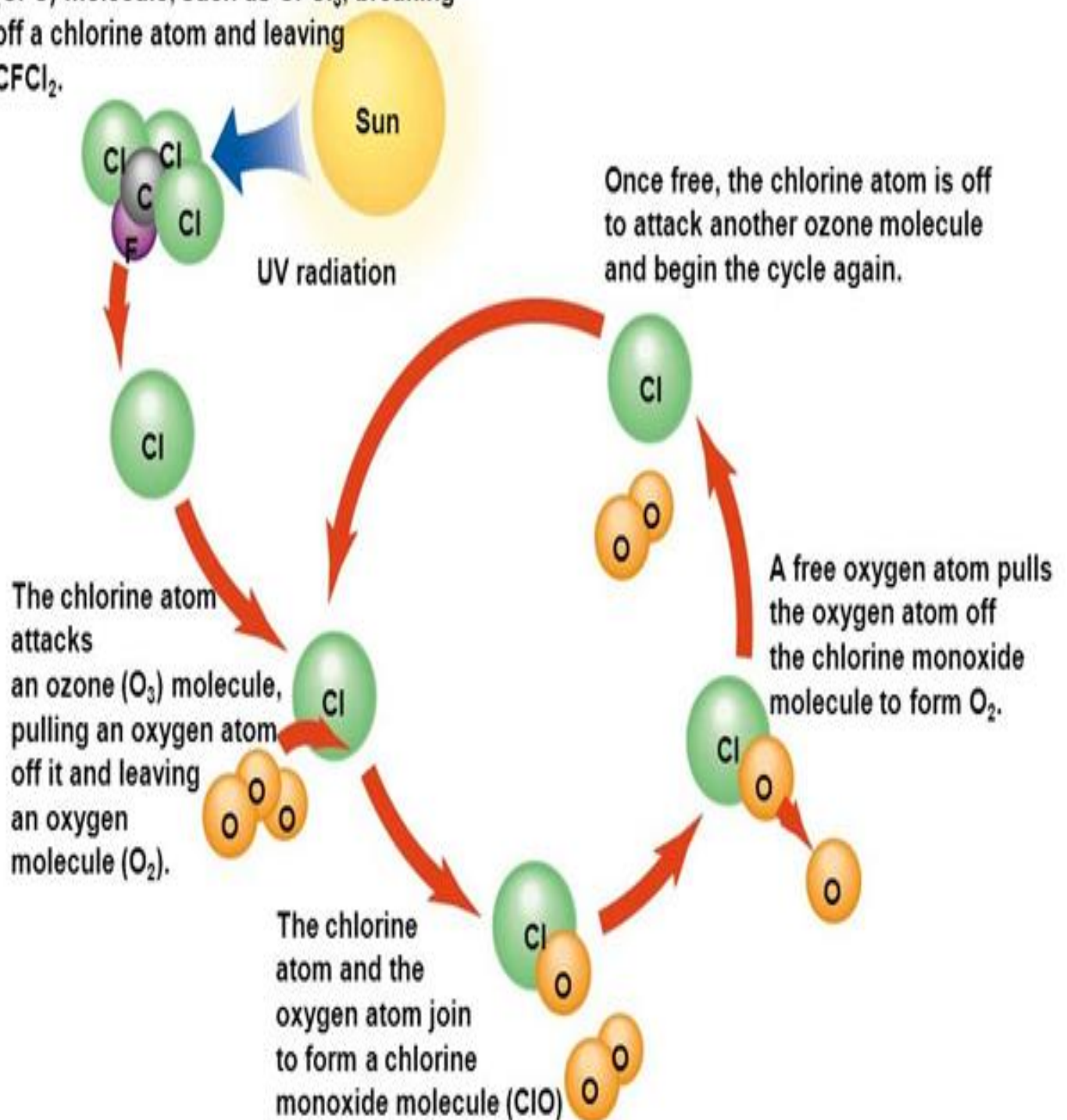
TEAM MISSION MANGAL

Important Days in September

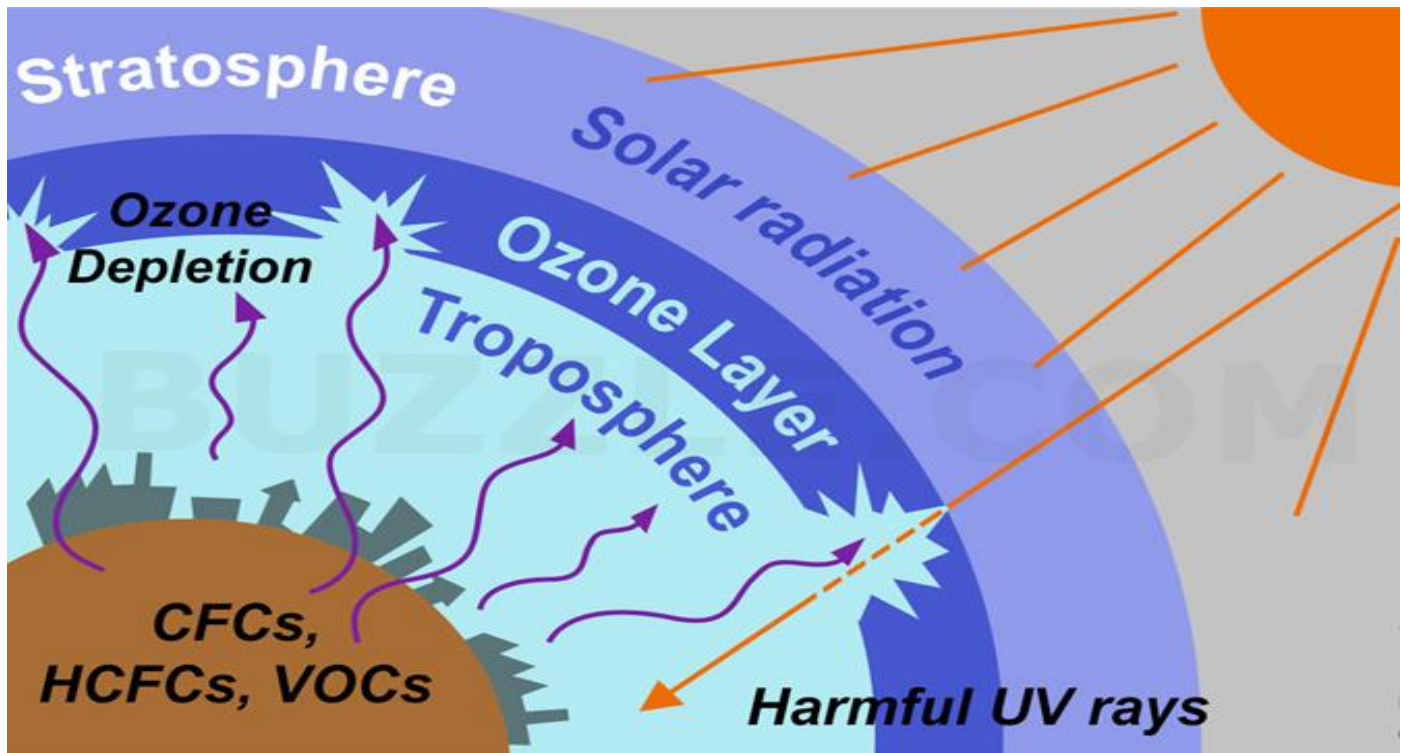
September 16 World Ozone Day

Ozone Destruction by CFCs

Ultraviolet light hits a chlorofluorocarbon (CFC) molecule, such as CFCl_3 , breaking off a chlorine atom and leaving CFCl_2 .



Loss of ozone layer allows entry of harmful UV rays into our environment



Consequences of Ozone depletion

Important text pg 165

Global Climate
Increase global warming due to Increase UV (less plankton = > CO2)

Affect Plant Growth & Reduce Crop production (UV stunt growth)

Human Health
Skin cancer, cataracts, Weakens immune system

Damage materials
UV radiation deteriorate materials eg Plastics, PVC

Marine Food Chain
UV kills plankton (marine food)
Affects food chain

The page features several illustrations: a bright sun in the top left, palm trees on the right, a group of five diverse children on a beach in the bottom left, and a blue ocean at the bottom.



WORLD ALZHEIMER'S DAY


September 21

Alzheimer's Symptoms


CONFUSION WITH
TIME AND LOCATION


WITHDRAWAL FROM
SOCIAL ACTIVITIES


DIFFICULTY
COMPLETING
FAMILIAR
TASKS


DIFFICULTY
SOLVING
PROBLEMS


POOR
JUDGEMENT


TROUBLE
WITH IMAGES
AND SPACES


MISPLACING
ITEMS


MEMORY
LOSS


UNFOUNDED
EMOTIONS


DIFFICULTY
WITH WORDS



Dementia

Can we reduce the risk?



2

Be physically active



3

Follow a healthy diet



4

Challenge your brain



1

Look after your heart



5

Enjoy social activity

10 Alzheimer's Communication Tips



1

Never argue,
instead **AGREE**

2

Never reason,
instead **DIVERT**

3

Never shame,
instead **DISTRACT**

4

Never lecture,
instead **REASSURE**

5

Never say "remember",
instead **REMINISCE**

6

Never say "I told you",
instead **REPEAT**

7

Never say "you can't",
instead do what they **CAN DO**

8

Never command,
instead **ASK**

9

Never condescend,
instead **ENCOURAGE**

10

Never force,
instead **REINFORCE**

KNOW MORE ABOUT MATHEMATICIANS!

Al-Khwarizmi, a Mathematical Bridge Between Civilisations

While Europe remained mired in the long Middle Ages and had forgotten much of the knowledge of classical Greece and Rome, **in the 9th century the Islamic world was enjoying an age of splendour**. During this period, the knowledge of the Greek, Indian and Persian civilisations was brought together at the House of Wisdom in Baghdad. A scholar was based there, who began compiling and translating the great mathematical works that had emerged over centuries and centuries, and succeeded in expanding them creating a new branch of mathematics: **algebra**.



Commemorative stamp on 1200th Birth anniversary of al-Khwarizmi.

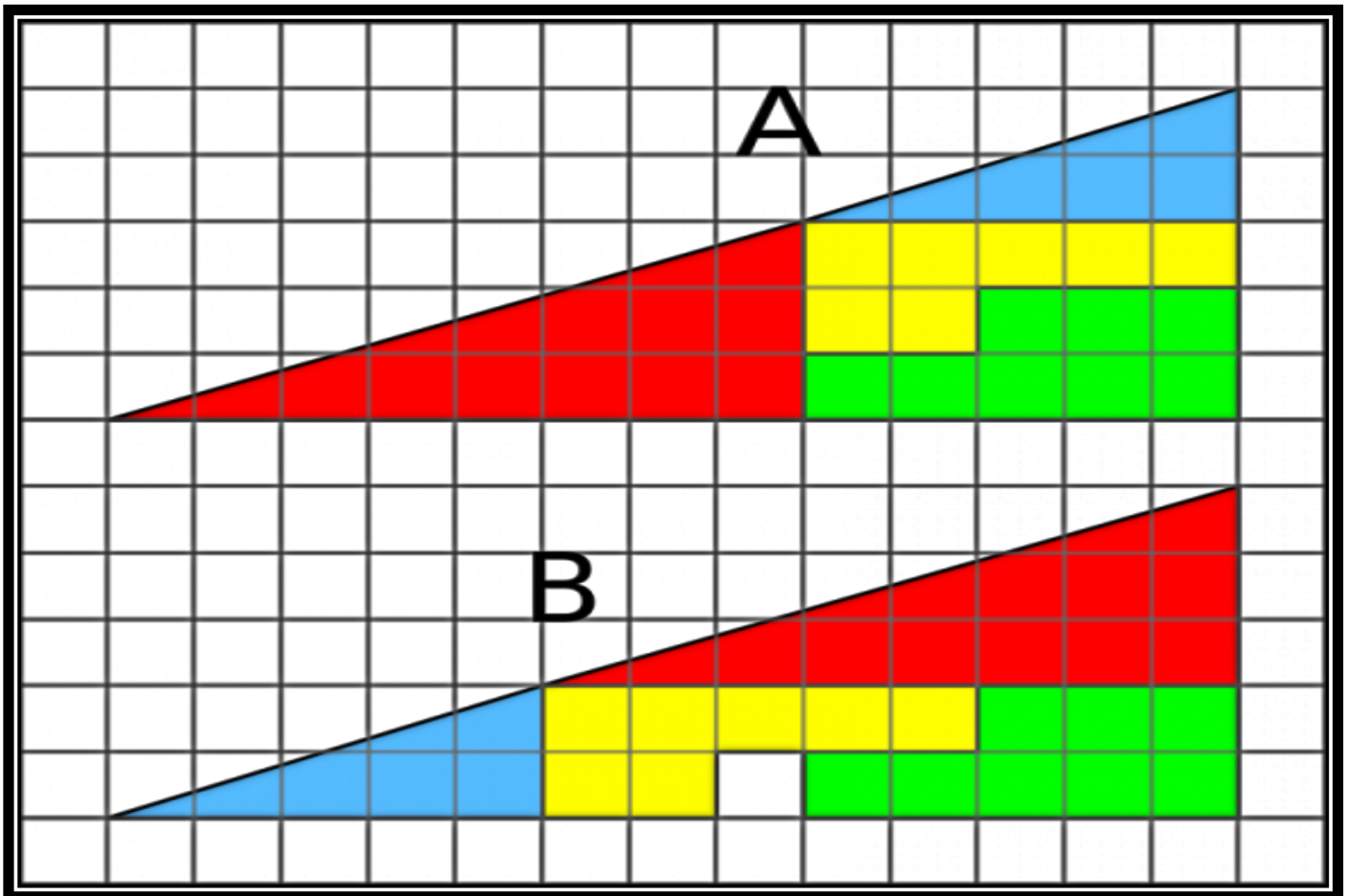
Source: **Wikimedia**

His new algebraic methods are the basis on which we solve equations, even today, and we have also incorporated the words **algorithm** and **algorism** into our modern language, which derive directly from his name: **al-Khwarizmi**. His name is also the origin of *guarismo*, a Spanish word meaning “digit”. His work was the ultimate bridge for the numbers we use today to reach the West, originating in India.

The Missing Square Paradox

The Paradox is a logical-mathematical hypothesis, based on a visual illusion. And like all illusions, this one too leads us to make an incorrect conclusion.

In fact, teachers often use this optical illusion to help students hone their logical reasoning skills. The illusion uses two sets of rearranged geometric sets to construct a triangle. But there is an additional geometric square in the second set. How is that possible?



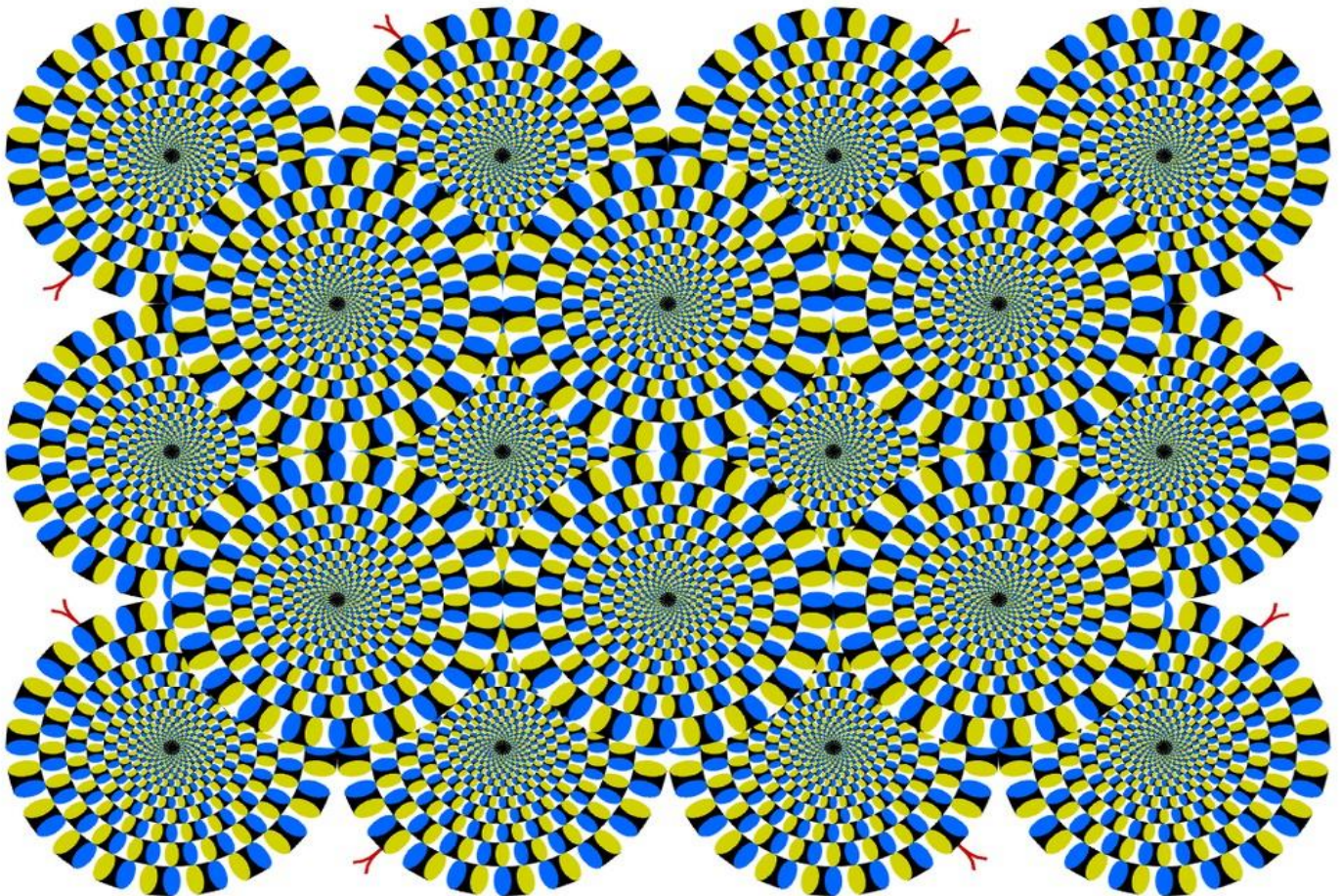
There is actually a simple explanation for this paradox. Neither triangle is a "true" triangle. The small empty space is in fact only the result of a small deformation of the perfect triangle with its slightly rounded edges.

“Show off your knowledge of mathematical trivia and paradoxes in class. Earn some brownie points from your math teacher. Share with your friends and have fun!”

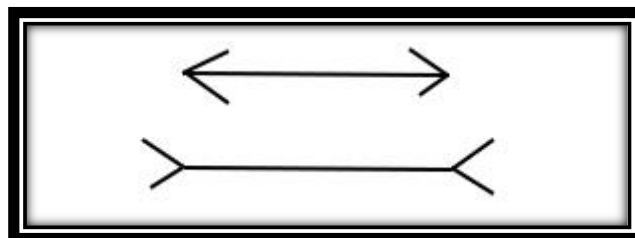
FLEX YOUR BRAIN WITH OPTICAL ILLUSIONS!

#1 MOTIONLESS IN MOTION!

Akiyoshi Kitaoka creates images from geometric shapes that appear to move. Due to how the colors and geometry is set up, the image tricks the brain into thinking that it's moving when it's completely motionless.

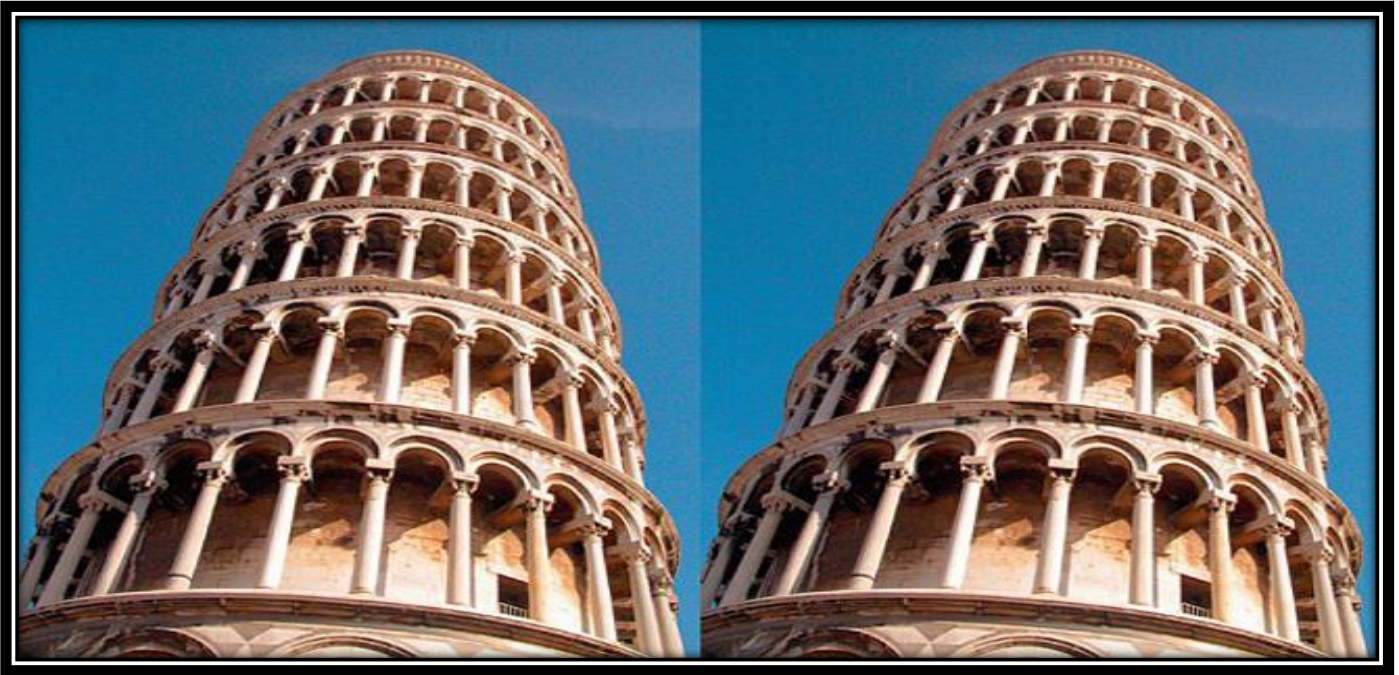


#2 WHICH LINE IS LONGER?



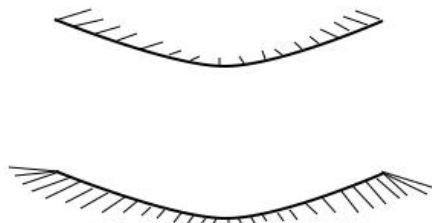
In the image above, we see two segments. The one on top appears to be smaller than the one at the bottom. Again, these two segments have the same length. Can you tell why this one tricked you into thinking that the one at the bottom is bigger?

#3 Which Tower is leaning farther right?



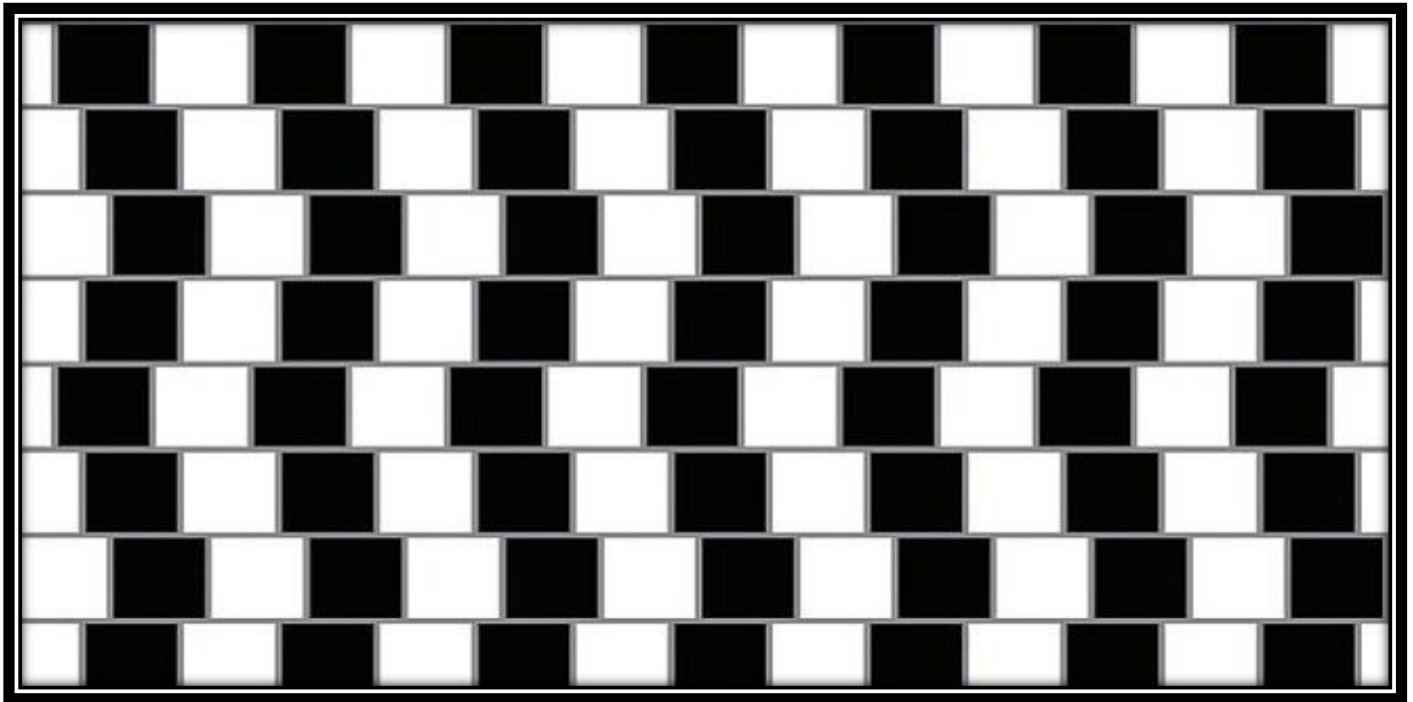
Neither, they are the same. It appears that the right tower is leaning more to the right. This deals with perspective optical illusions again. Figure it this way, if these two towers were standing by each other in the real world, the two towers would converge to a point, these are simply the rules of perspective. Same reason that long roads converge to a single point in the distance. So if these two towers are really parallel, then they would start to converge from the distortion of your perspective. They aren't converging, so your brain doesn't think they are the same or parallel. Your brain thinks "one has to be off"

#4 WHICH ARC IS SHORTER?



Once again they both have the same length. What tricked you into thinking that the one on top is shorter?

#5 Are the Horizontal lines Straight or Crooked?



A Great line optical illusion that strategically places black and white tiles to distort your peripheral vision that make the lines appear to be crooked. It also keeps on moving when we scroll up and down but it's actually motionless!

#6 The Ponzo Illusion: Which Car is the biggest?



The Ponzo illusion is created by our brain judging an object's size based by its perceived distance. The brain places the car into context with it's surroundings. The third car is furhter away (in perspective) so therefore it appears to look larger.

PUZZLE TIME!



**There are 3 doors in front of you.
You have to go through one of them.
Behind the first door, a fire is raging;
a gunman lurks behind the second one;
behind the third one, there is a lion
that hasn't eaten in 3 years.
Which door will you choose?**

NOW, CAN YOU ANSWER THIS ONE?

Which balloon is the farthest from the ceiling?

