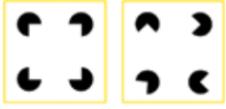


Children with autism 'see' this optical illusion in a unique way



To transform reality into the mental landscape that occupies our minds, our brain performs a multitude of operations. Some are short-cuts; assumptions that become obvious the moment we attempt to make sense of the conflict presented in an optical illusion, Science Alert wrote.

For individuals with autism, those short cuts and mental operations could work a little differently, subtly influencing how the brain constructs a picture of everyday life.

With this in mind, scientists have turned to optical illusions to better understand neurodivergence.

A study on the brain activity of 60 children, including 29 diagnosed with autism spectrum disorder (ASD), suggests differences in way individuals process illusory shapes could reveal ways autism affects specific processing pathways in the brain.

The research made use of a classic style of illusion popularized by the Italian psychologist, Gaetano Kanizsa, which typically involve simple lines or shapes, such as circles, with sections removed. Arranged in a certain way, the empty spaces align to describe a second shape in their negative space.

To really 'see' the different shapes, higher processing operations in different areas of the brain combine stimuli, turning a mere pattern of dark and light into a comprehensive picture.

Depending on the information that's recruited, the stimuli can be interpreted as one shape or the other, but not both at once. The whole process is highly dependent on neurons sharing information quickly, from the parts of the brain that determine perception to the parts that receive and package visual data, and back again.

Autism is defined as a neurological 'spectrum disorder' because its traits are extremely diverse, with each person showing different abilities, strengths, and challenges.

Generally, however, research has shown that many people with ASD process sensory information, like sound and sight, in a way that is not neurotypical. An optical illusion is a good way to explore that neurodivergence.

A Kanizsa illusion, left, is formed when shapes are arranged with appropriate sections 'missing' (right) are arranged to form a second shape. (ScienceAlert)

# Chernobyl dogs are genetically different to others



The new research found that this population contains 15 complex family structures that were unique compared with other dogs.

New research has studied hundreds of the free-wheeling dogs that roam the ruins of the Chernobyl nuclear power plant and found that exposure to radiation may have made them genetically distinct from other dogs elsewhere in the world.

Following the Chernobyl nuclear disaster on April 26, 1986, around 120,000 people living in the surrounding area and the nearby city of Pripjat were forced to evacuate and abandon their homes. This included many pet dogs who, against all odds, managed to establish a sturdy population that still lives in the irradiated land that

surrounds the decaying power plant. In a new study, scientists looked to gain a deeper understanding of the unusual dog populations living around Chernobyl in light of the harsh environmental contamination that many are exposed to on a daily basis.

With the help of blood samples collected from the stray animals between 2017 and 2019, they genetically analyzed 302 dogs from populations living within the power plant itself, as well as those 15 to 45 kilometers (9.3 to 27.9 miles) from the disaster site.

Just by looking at the DNA

of the dogs living close to Chernobyl, it was clear they were genetically different from pets living elsewhere in the world, which the researchers believe is a reflection of the ionizing radiation they've been exposed to for generations.

In total, the new research found that this population contains 15 complex family structures that were unique compared with other dogs. However, it's also clear that the dogs move around the different areas and breed freely with one another. "I think the most remarkable think about the study is that we identify popu-

lations of dogs living in and in the shadow of the reactor, and we can tell who those dogs are just by looking at their DNA profile. To think of families living in places like near spent fuel rods is incredible and speaks to the resilience of dogs as a species," Elaine Ostrander, study author and geneticist at the NIH's National Human Genome Research Institute, told IFLScience. "We also find that the dogs living in the exclusion zone now are likely descendants of pets from people that fled the area when the explosion happened. We can see the history of those pets etched

in the DNA of dogs living in the exclusion zone today," explained Ostrander.

By the latest count, up to 800 semi-feral dogs may have been living in the land around Chernobyl, including the highly contaminated areas such as the Chernobyl New Safe Confinement structure. The hounds are categorized as semi-feral as they do have some run-ins with humans. Workers and researchers in the area are known to feed the animals, while vets occasionally visit the area to update their vaccines and treat whatever medical problems they have.

## NHS strikes halted after gov't agrees to offer workers improved pay



Striking members of the Chartered Society of physiotherapists attend their picket line at Royal London Hospital. GETTY IMAGES

National Health Sector (NHS) strikes in the United Kingdom have been halted after the government agreed to offer workers an improved pay deal.

The breakthrough means talks between NHS unions and ministers will start next week when almost 50,000 workers had planned walk-outs, according to Daily Mirror. Unions said there had been a "huge shift" from Government after three months of the Tories insisting improved pay was "unaffordable".

GMB has suspended a planned walk out of 13,000 emergency service workers on Monday which was set to see only the most obviously life-threatening 999 calls answered.

National Secretary Rachel Harrison, national secretary of GMB, said, "This is a huge shift from the Government, who for months have refused to consider negotiations on pay."

"Now, they are saying they are willing to sit down and talk. The government has given assurances of additional cash for both years above existing budgets and that any deal will respect the existing Agenda for Change structure."

"GMB's ambulance workers have agreed to suspend industrial action so talks can begin - however the strike will return with a vengeance should talks break down." Until now the Tories had refused to countenance an improved

pay deal for England for 2022/23 despite a growing staff crisis in the health service and record waits for care.

It has implemented a 4% rise on average despite inflation running at over 10%.

Similar strikes in Wales and Scotland have been postponed after the devolved governments offered improved pay deals of around 7%.

The bitter industrial dispute has already caused hundreds of thousands more operations and appointments to be postponed. Unison, has also agreed to join the collective talks via the NHS Staff Council, has postponed its strike involving 32,000 NHS workers planned for Wednesday.