

# ANSWERS TO QUESTIONS AND COMMENTS FROM THE OLLI CLASS ABOUT VISION

COMPILED BY HOWIE BAUM

## DO SOME OF THE BEST BASEBALL PLAYERS HAVE EXTRA SPECIAL VISION TO HELP WITH HITTING A PITCHED BASEBALL?

Hitting a pitched baseball has been described as one of the most difficult tasks in any sport.

Athletes who play baseball at the elite level must not only have exceptional visual acuity — they must also possess superior visual skills and the ability to process what they see more quickly and more effectively than average players. [See Vividly](#)

### Superior Visual Acuity

A study testing approximately 1,500 players from the Dodgers' and Mets' major and minor league systems found that 81% of the players had visual acuities of 20/15 or better, and about 2% had acuity of 20/9.2.

The average person has 20/20 vision; the average MLB player has 20/13 vision. [Baseball America High School Baseball Web](#)

Famous examples: Ted Williams had 20/10 vision, as did Tony Gwynn and Barry Bonds — all legendary hitters.

Williams' vision was later tested and found to be an extraordinary 20/8 — meaning he really could pick up the spin on a curveball coming at him at 90 mph. [Quora High School Baseball Web](#)

### It's More Than Just Sharp Eyes

Visual acuity, depth perception, peripheral motion acuity, and contrast sensitivity are all vital to the hitter — but visual *memory*, the ability to recall past cues, is equally if not more important. A superior player must use visual functions to quickly identify the fine details of a pitch in order to produce a mental image and allow for correct identification the next time a similar pitch is seen. [Vizworld](#)

### The Impossible Task

Here's the fascinating paradox: it is physically impossible for the human eye to track the baseball from the pitcher's hand all the way to the bat. The human eye simply cannot move fast enough to keep up with major league pitching. Instead, players depend on all their visual functions to follow the initial path of the pitch and then *predict* its final location as it crosses the plate. [Baseball America](#)

## The Numbers in Context

A fastball regularly exceeds 95 miles per hour, traveling approximately 55 feet from the pitcher's hand to home plate in under 350 milliseconds. During that time, the batter must decipher the pitch, project its trajectory, decide whether to swing, and coordinate the timing and movement of a 2.25-inch diameter bat to intercept a 3-inch ball. [biorxiv](#)

Research has found that even among elite MLB hitters, those with greater visual capacities exhibit significantly superior batting performance — measured by on-base percentage, slugging percentage, and other key statistics. [Vizual Edge](#)

## Can Baseball hitters actually see stitching on an incoming baseball?

The short answer: *sometimes, partially — but it's more complicated than just "seeing the seams."*

## What Elite Hitters Actually "See"— The Spin Clues

Elite hitters often talk less about the seams themselves and more about the *shade* of the ball (see below) — a fastball appears darker when the seams are spinning faster, because the red stitching gives it a dark brownish tint. A changeup has the lightest color since the seams spin slowest. [Applied Vision Baseball](#)

It all ties together beautifully. Visual memory — the ability to recall past cues — is equally as important as the physical sharpness of the eye. A superior player uses visual functions to quickly identify fine details of a pitch and produce a mental image, which allows for correct identification the next time a similar pitch appears. [Vizworld](#)

So the stitching and spin are real clues — but they work *together* with the hitter's experience and visual memory, not as a standalone superpower. Even Ted Williams with his near-superhuman 20/8 vision was doing a combination of seeing early cues and predicting — not

literally watching the ball into the bat.



A MAN IN THE AUDIENCE REMINDED ME THAT IN THE PAST, PERSONS WHO WERE DESCRIBED AS "LEFT WING", WERE CALLED PINKOS.

A very colorful piece of political history!

### "Pinkos" and the Red/Pink Era

The term "Pinko" emerged primarily in the **1930s through the 1960s**, peaking during the McCarthy era of the early 1950s.

The logic behind the colors was a spectrum: a full Communist was "Red" (the color long associated with Communist movements — the Soviet Red Flag, China's Red Army, etc.), while someone who was sympathetic to left-wing or socialist ideas but not a full Communist was a diluted red — hence **Pink**.

"Pinko" was used as a dismissive, often accusatory label during the Cold War, when being associated with Communist sympathies could seriously damage a person's career or reputation.

### The Broader Color Vocabulary of Political Labels

- **Red** — the oldest and most universal, dating back to the **French Revolution (1790s)**. Radicals and revolutionaries carried red flags. By the 20th century it meant Communists specifically. "Better dead than Red" was a common American Cold War phrase.

- **Pinko** — 1930s–1960s, as described above. A "fellow traveler" who leaned left without being a card-carrying Communist.
- **Blue** — in the U.S., blue became associated with the **Democratic Party** and **conservative** politics in much of Europe. In the UK, the Conservative (Tory) Party is traditionally blue.
- **Red States / Blue States** — this American usage is actually surprisingly **recent**, solidifying only around the **2000 presidential election**, when TV networks color-coded electoral maps and the colors stuck permanently.
- **Greens** — from the **1970s onward**, Green became the color of environmentalist and ecology-focused political movements worldwide, giving rise to Green Parties across Europe and beyond.
- **Yellow Dog Democrat** — an old American expression (early **1900s**) for a Southern Democrat so loyal to the party they'd "vote for a yellow dog before they'd vote Republican."
- **True Blue** — long used in English to describe someone reliably loyal and conservative, dating back to **17th century** Scotland, where blue was the color of the Presbyterian Covenanters.

### The Interesting Irony

In most of the world, **red = left wing** and **blue = right wing** — which is the standard in Europe.

The United States is one of the only countries where it's flipped on electoral maps, and that only happened accidentally in 2000 when TV networks happened to assign those colors that election night, and it stuck!

## DO PEOPLE WITH BLUE OR LIGHT GREEN EYES HAVE MORE LIGHT SENSITIVITY?

Eye color is actually the color of the **iris** — the ring-shaped muscle that surrounds the pupil. The pupil itself is always black, because it's actually an opening (a hole) into the dark interior of the eye. The iris controls how much that opening expands or contracts.

Light sensitivity — called *photophobia* — typically affects people with light-colored eyes because they have less pigmentation in multiple layers of the eye than those with darker eyes. [Duke Health](#)

The key is a pigment called **melanin**. The amount of melanin in the iris determines eye color.

Brown eyes have a lot of melanin, which makes them more able to block out bright sunlight, harsh lighting, and glare. Blue eyes have the least amount of melanin. [Clear Eyes](#)

Melanin in the iris serves a protective function by absorbing excess light. Blue and green eyes have lower melanin levels, allowing more light to penetrate the eye — which explains the different levels of light sensitivity seen among people with different eye colors. [Alders Opticians](#)

It isn't all disadvantage for blue eyes. There's actually a fascinating flip side:

People with blue eyes generally have better night vision than those with brown eyes, since they have greater sensitivity to light.

Those with brown eyes can see better in bright sunlight, and glare won't bother them as much. [Evercollection](#)

Blue eyes may also have slightly better visual acuity [Parkhurst NuVision](#)

### Eye problem issues, based on color of the iris:

Age-related macular degeneration is more common in people with lighter eyes, since less pigment allows more light into the eye. On the other hand, people with dark brown eyes have a greater risk of developing cataracts. [Parkhurst NuVision](#)

## ARE BLUE EYES MORE RECENT IN THE HISTORY OF HUMANITY?

### Originally, ALL Humans Had Brown Eyes

Homo sapiens emerged around 200,000 years ago in Africa — but the mutation that causes blue eyes did not appear until sometime around 10,000 years ago.

So for roughly 190,000 years of human existence, everyone on Earth had brown eyes. Blue eyes are, in the grand sweep of human history, a very recent newcomer. [The Mutter Museum](#)

### You Are Likely Related to a 7,000-Year-Old Man in Spain

If you have blue eyes or know someone with blue eyes, they are more than likely related to a 7,000-year-old man whose remains researchers found in a remote cave in Spain.

Anthropologists have actually reconstructed what this ancient hunter-gatherer looked like — and fascinatingly, he had blue eyes but also dark skin, a combination almost never seen today. [The Mutter Museum](#)

### How rare are blue eyes?

Blue-eyed people make up an estimated 8% of the world's population today — though in Northern European countries such as Iceland, blue-eyed individuals find themselves in the majority. That 8% worldwide all trace back to that single genetic switch. [Milan Eye Center](#)

### What about green eyes?

Green eyes follow a similar story — green eyes, even rarer than blue, represent a reduced level of melanin, though not as reduced as blue eyes. It only takes a minuscule change to shift from brown to blue. Green eyes are actually the rarest of all common eye colors, found in only about 2% of people worldwide. [aol](#)

## A PERSON MENTIONED THAT THERE IS AN ARTIST WHO HAS PROSOPAGNOSIA - FACE BLINDNESS BUT PAINTS FACES.

### Chuck Close — The World's Most Famous Face-Blind Portrait Painter

**Chuck** (1940–2021), was an American painter who became world-famous for his enormous, photorealistic portrait paintings — despite having prosopagnosia his entire life.

Since childhood, Close lived with prosopagnosia — an impairment in the ability to recognize or differentiate between human faces.

He also had dyslexia and undiagnosed muscle weakness, and since 1988 was confined to a wheelchair due to partial paralysis from a spinal stroke. [Brain & Life](#)

Yet his large-scale portraits of the human face — including more than 100 self-portraits — led to shows at the Museum of Modern Art, and in 2000 he was awarded the National Medal of Arts, the highest honor the U.S. government confers on an artist. Brad Pitt and President Bill Clinton asked to sit for his portraits. [Brain & Life](#)

### Why He Painted Faces — The Irony

Close told "60 Minutes" that he paints portraits "to take images of people that matter to me and commit them to memory in the best way I can, which is to slow the whole process down and break it down into lots of little memorable pieces." In other words, his disability literally *drove* his art — painting faces was his way of trying to remember them. [CBS News](#)

Close himself believed he flourished as an artist not *in spite of* his conditions, but *because of* them. [Brain & Life](#)

### His Brilliant Grid Solution — and Why It Also Explains the Self-Portraits

Close uses a grid to break down every image he paints into small incremental units, so he can comfortably focus on each individual part without being overwhelmed by the whole face. Consequently, no problem becomes too big to be solved. [Artyfactory](#)

Crucially, he always worked from a **photograph**, not from life — so he wasn't trying to recognize a face, he was essentially painting a map, square by square.

His paintings appear almost pixelated — filling each square with bold strokes of color, with the face only coming into full focus as the viewer steps away from the canvas. This is why self-portraits were manageable — he was painting *from a photo of himself*, not from recognition. [Artnet News](#)

### Other Famous People With Prosopagnosia

It is more common than most people realize. One in fifty Americans has some degree of face blindness. Some well-known names include: [northwestern](#)

- **Brad Pitt** — the actor told GQ Magazine that he struggles to remember new people and believes he has prosopagnosia, though he has never been officially diagnosed. He fears

the condition has given people the impression he is remote and aloof, but says "the truth is, he wants to remember the people he meets and he's ashamed that he can't." [aol](#)

- **Oliver Sacks** — the famous neurologist and author (*The Man Who Mistook His Wife for a Hat*) had prosopagnosia himself and wrote extensively about it — a wonderful case of a doctor studying his own condition.
- **Carlotta** — a German artist who paints self-portraits by a remarkable method: touching her own face with her fingers first. She described her face as "a hilly landscape that I travel with my finger and transform into a two-dimensional drawing." She cannot recognize her own face in a mirror and identifies herself only by context clues like being in her own home wearing her own nightgown. [Laurietobyedison](#)

## Other famous Artists With Eye-Brain Conditions Who Had to Compensate

- **Claude Monet — Cataracts** Monet struggled with cataracts in his 60s. Upon noticing his eyesight changing, he wrote to an eye doctor: "I no longer perceived colors with the same intensity... I no longer painted light with the same accuracy.
- Reds appeared muddy to me, pinks insipid, and the intermediate and lower tones escaped me." His famous Water Lilies series, painted during this period, appear blurry with muted blues and purples.
- After cataract surgery, he even went back to the Water Lilies paintings and repainted parts to give them more clarity — though he expressed dissatisfaction with his inability to perceive yellows and reds, and eventually wore tinted lenses to compensate. [Regional Eye CenterOptometrists](#)
- **Edgar Degas — Retinal Disease** Medical experts believe Degas suffered from retinal disease, perhaps macular degeneration. His paintings grew coarser and lost refinement as his central vision weakened. Many contemporaries noted his late works were "strangely coarse" and out of character — yet Degas himself might not have noticed, because he would have been equally unable to focus his central vision on his own earlier paintings. [Scientific American](#)
- **Rembrandt — Strabismus (Eye Misalignment)** Rembrandt, whose eyes appear misaligned in his self-portraits, was thought to have strabismus. It is speculated he needed to close one eye to avoid double vision, which would have allowed him to accurately replicate what he saw onto the canvas — and would have affected how he painted eyes. [Regional Eye Center](#)
- **Georgia O'Keeffe — Macular Degeneration** The pictures of Georgia O'Keeffe became flatter and less intricate as she developed bilateral age-related macular degeneration, a retinal disease that affects central, high-resolution vision. [Scientific American](#)
- **El Greco — Possible Astigmatism** Scientific American suggests El Greco's famously elongated figures may have been due to astigmatism, an optical defect that glasses would have corrected. Though some art historians debate this, arguing the elongation was a deliberate stylistic choice. [Optometry Australia](#)
- **Paul Cézanne — Myopia and Possible Diabetic Retinopathy** Many art historians believe Paul Cézanne was nearsighted — his close-up paintings were sharp and clear,

while his landscape works were fuzzy. Diabetic retinopathy was also a possible condition he suffered from. [Optometrists](#)

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## The Bigger Vision Connection

Prosopagnosia is a perfect example of how vision itself can be perfectly intact while the *brain's processing* of what the eyes see is disrupted. It is a cognitive disorder of face perception in which the ability to recognize familiar faces is impaired, while other aspects of visual processing and intellectual functioning remain completely intact. The eyes work fine — it is the brain's "face recognition software" that is missing. [Wikipedia](#)

## WHY DOES A PDF OF A POWERPOINT LOOK YELLOW TO SOME PEOPLE?

This is 2 different explanations working together — one is technical, one is biological, and both are relevant:

**The technical reason:** Cataracts cause people to develop blurred vision and perceive colors as faded or yellow-toned. So if the man in the class may have early or developing cataracts, white slide backgrounds can genuinely appear yellowish to him — not a screen problem at all, but his own lens. [Regional Eye Center](#)

**The other technical reason** is real too: when PowerPoint files are exported to PDF, vibrant colors can appear faded and dull. Whites can shift slightly warm or yellowish depending on the color profile applied. So the man may be seeing a combination of both — a slightly color-shifted PDF *and* his own eyes interpreting white as yellow. [Microsoft Answers](#)

## CAN A PERSON WITH APHANTASIA PAINT A RED APPLE WITHOUT ONE IN FRONT OF THEM?

Yes — and this surprised researchers when they studied it! The answer comes down to a crucial distinction between *knowing* something and *seeing* it in your mind.

Having a real apple in front of them would certainly help — and many aphantasic artists do rely heavily on references. Many aphantasic artists use photography extensively to capture appearances they would otherwise be unable to retrieve from memory. [Psyche](#)

Fascinatingly, **some artists find aphantasia liberating** rather than limiting. British artist Michael Chance, who paints detailed figurative scenes, views his aphantasia as a stimulus: "The lack of ability to visualize images in my mind is a great motivation; I must physically work on a drawing or painting in order for my imagination to become visually manifest.

I often start a picture with no intention and certainly no end goal; it materializes in an improvisatory way. This sense of stepping out into the unknown is thrilling." [Interalia Magazine](#)

**And the most famous example: Glen Keane, the Oscar-winning Disney animator behind *The Little Mermaid* and *Beauty and the Beast*, has aphantasia — when he sat down to design Ariel, his mind was completely blank. He had no preconception of what he would draw. Yet he created some of the most beloved animated characters in history.** [The Conversation](#)

## WHICH BRAIN-EYE CONDITIONS ARE ALSO ASSOCIATED WITH TINNITUS?

Several of the conditions discussed in your presentation connect directly to tinnitus, which is a ringing in a person's hearing:

**Ménière's Disease** is the strongest link. Ménière's disease is a chronic inner ear condition that causes severe vertigo and tinnitus, fullness in the ears, and hearing loss — and also significantly affects vision, since about 80% of the sensory information the brain receives is visual. The characteristic dizzy spells of Ménière's disease may come with double vision or blurred vision. [Optometrists.org Treble Health](https://www.optometrists.org/treble-health/)

**Migraines** are the second major connection. People who suffer from migraines are more likely to report tinnitus, and people with tinnitus are more likely to experience migraines. During a migraine attack, hypersensitive sensory processing makes tinnitus seem louder or more noticeable. Migraines, tinnitus, and vision changes may all be linked by changes in blood flow. [Treble Health](https://www.treblehealth.com/)

**Visual Snow Syndrome** — a condition where people see tiny flickering dots across their entire field of vision like TV static — has a striking connection to tinnitus: about 63% of people with visual snow syndrome also notice continuous ringing in both ears. Both are phantom perception disorders — seeing and hearing things without any external source — both driven by the way the brain processes sensory input. [Treble Health](https://www.treblehealth.com/)

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**How Common Is It?** Surveys estimate that 10 to 25% of adults have tinnitus. For children and adults, tinnitus may improve or even go away over time, but in some cases it worsens. When tinnitus lasts for three months or longer, it is considered chronic. [NIDCD](https://www.nidcd.nih.gov/)

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## CAN STEROID MEDICATIONS CAUSE TINNITUS?

The answer is nuanced — and actually goes in *both* directions, which makes it a great topic:

**Steroids can sometimes worsen tinnitus** in individual patients. Some patients report that injected or oral steroids can affect the nerve and the cochlea, causing sensitivity and an increase in the brain's auditory processing, which can make tinnitus feel louder. [Mayo Clinic Connect](https://www.mayoclinic.com/health/tinnitus/20017001)

**However, steroids are also commonly used to treat tinnitus.** The discovery of steroid receptors within the inner ear has positioned corticosteroids as a first-line therapy for inner ear disorders. Corticosteroids may alleviate tinnitus by suppressing irritability or sensitivity caused by cochlear hair cell damage, increasing blood vessel function in the inner ear, and protecting hair cells. [ScienceDirect](https://www.sciencedirect.com/)

So the picture is this: for sudden or acute tinnitus caused by an injury or inflammation, doctors often *prescribe* steroids as treatment. But in certain individuals, steroids can paradoxically aggravate existing tinnitus. As with many medications, individual responses vary considerably. Anyone noticing a change in their tinnitus after starting steroids should mention it to their doctor.

## ARE THERE ANY SPECIAL GLASSES TO HELP PEOPLE WITH COLOR BLINDNESS?

**EnChroma** — the pioneer and most well-known. About 80% of color blindness occurs when there is an excessive overlap of the red and green cones in the eye, causing swaths of distinct hues to become indistinguishable.

EnChroma's patented lens technology filters out light wavelengths at the exact spot where the color receptors overlap, increasing differentiation between colors for that person's eyes.

[EnChroma](#)

Importantly, EnChroma glasses do not cause a color-blind person to truly see colors the way a person with normal color vision would. Rather, they heighten the contrast between colors like red and green so they can be perceived as *different* — though some subtle shades may be lost in the process. They work best outdoors in bright sunlight. [NVISION](#)

Alternative brands include **ColorMax**, developed by Dr. Thomas Azman, whose color correction system can be applied to both glasses and contacts; and **Chroma-Gen**, a British brand that offers contacts and glasses and claims to correct more than just red-green deficiencies, with 8 color tints available. Another brand called **Pilestone** is often recommended as a more affordable introductory option. [SmartBuyGlasses](#)

The reactions people have when first wearing these glasses — often seen in touching viral videos — can be quite emotional, with people seeing vivid reds and greens for the first time in their lives.

## WHAT IS THE RARE CONDITION WHEN THE EYEBALLS ARE EACH DIFFERENT SIZE - ANISEIKONIA

People with this have trouble judging the size of objects around them, and difficulty walking.

It is a binocular vision disorder that causes a difference in perceived image size between the two eyes — basically, everything seen through one eye appears larger or smaller than through the other.. [Chadwick Optical](#)

In older patients, aniseikonia can cause headaches, double vision, dizziness, nervousness, imbalance, nausea, spectacle intolerance, and distorted perception of space. It can cause trouble with judging the size of surrounding objects and trouble walking, because the brain is receiving two different-sized images and struggling to fuse them into one coherent picture of the world. [NCBI](#)

**Can it be helped?** The primary and most effective solution for people with aniseikonia are specially designed glasses that equalize the image sizes between the two eyes. These are called **iseikonic lenses** — though they are specialized, harder to find, and require an eye care professional experienced in this relatively rare condition. [Chadwick Optical](#)

Vision therapy can also help train the eyes and brain to adapt to image differences and restore better binocular coordination, including fusion training, vergence control, and improvement of depth perception. [Dr. Agarwals](#)

# HOW DO PEOPLE KNOW WHAT COLORS THAT ANIMALS, FISH, BIRDS, ETC., CAN SEE?

## How Scientists Discover Animal Vision

The short answer: researchers use a clever combination of anatomy, physics, behavior, and technology — since we can't exactly ask a shrimp what it sees!

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### 1. Studying the Eye's Structure (Anatomy)

The physical structure of an eye reveals a lot:

- Counting photoreceptors — the rods (for dim light) and cones (for color) in the retina tell us what light an animal can detect
  - Lens shape and pupil type — a slit pupil vs. round pupil vs. compound eye all suggest different visual abilities
  - Eye placement — forward-facing eyes (owls, humans) suggest depth perception; side-placed eyes (fish, rabbits) suggest wide-field awareness for predator detection
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### 2. Measuring Light Sensitivity (Physiology)

Scientists extract photoreceptor cells and expose them to different wavelengths of light to see which ones they respond to — this reveals the animal's color range, including ultraviolet or infrared that humans can't see.

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### 3. Behavioral Experiments

They train animals to respond to visual stimuli:

- Show a bee two colored flowers — which does it choose?
- Does a fish react to a predator shown in UV light?
- Can a bird navigate using polarized light?

Behavior reveals what the animal *actually uses* in the real world.

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### 4. Special Cases — Like the Mantis Shrimp!

The mantis shrimp is a famous example — it has 16 types of photoreceptors (humans have 3), detecting UV, visible, and polarized light. Scientists discovered this by mapping its eye anatomy and then doing electrophysiology — measuring electrical signals from individual cells when hit with light.

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## 5. Birds — UV Vision Discovery

Birds were long assumed to see like us, until scientists measured their cone cells and found a fourth type sensitive to ultraviolet light. Behaviorally, they confirmed this because male birds have UV patterns on their feathers invisible to humans but *dazzling* to female birds!

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## 6. Technology Helps Us "See" Like They Do

- Cameras with UV or infrared filters can photograph what animals likely see
  - Computer modeling reconstructs visual fields
  - Electroretinography measures the retina's electrical response to light
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### The Big Takeaway for Your Students

We can never *directly* experience another animal's vision, but by combining anatomy + physics + clever experiments, scientists paint a remarkably detailed picture. It's a beautiful example of how indirect evidence builds scientific knowledge!

## ADDITIONAL INTERESTING VISION FACTS

### 1. Tetrachromacy — Women Who See 100 Million Colors

This is perhaps the most astonishing vision fact of all. Most humans are *trichromats* — we have 3 types of cone cells and can see roughly 1 million colors. But up to 12% of women in the world have a fourth type of cone cell, a condition called tetrachromacy, which allows them to perceive an estimated 100 million color variations — 100 times what the average person sees. [All About Vision](#)

In practical terms, a tetrachromat might walk into a paint store and see dozens of distinct shades in what looks to everyone else like a uniform "white" wall. Artists with the condition have described rainbows as appearing strikingly incomplete to everyone else by comparison.

### 2. You Are "Temporarily Blind" 3–4 Times Per Second

During your waking hours, your eyes are shut 10% of the time due to blinking. Additionally, you are "temporarily blind" at least 3–4 times per second due to rapid eye movements called saccades — movements that shift the center of your gaze between visual fields at around 700% the speed of normal eye movement. Your brain fills in the gaps so seamlessly you never notice. This is called *saccadic suppression* — the brain essentially edits out the blur.

[Heinwagneracademy](#)

### 3. The Cornea Has No Blood Vessels — Uniquely in the Body

The cornea is the only human tissue in the body that has no blood vessels, because blood vessels would cloud your vision and prevent the eye from properly refracting light. Instead, the cornea gets its oxygen directly from the air and from the fluid (aqueous humor) behind it — a remarkable biological engineering solution. [Heinwagneracademy](#)

#### **4. Synesthesia — Hearing Colors and Seeing Music**

Synesthesia is a brain-wiring condition where the senses cross over. People with synesthesia experience one sense through another — hearing music and seeing colored shapes, or associating certain numbers or words with particular colors. It appears at a higher rate in people with other types of neurodiversity. Renowned musicians and artists who have claimed synesthesia include Pharrell Williams, Billy Joel, Kanye West, Hans Zimmer, and David Hockney. [Wikipedia](#)

#### **5. A Brand New Color Was Created in 2025**

In 2025, a scientific breakthrough called the "Oz principle" used lasers to stimulate individual cone cells and create a novel color — dubbed "Olo" — a hue never before seen by human eyes, expanding our understanding of color perception. [Zonia](#)

