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# Discovery





# Eye Spy DESIGN



## IF SOMEONE WALKED UP TO YOU TODAY AND ASKED WHY YOU

believe in God, what would you say? Would you be able to quickly give a good, reasonable answer to such a very important question? There are many questions that Christians need to be able to answer sensibly, but none is more important than the question of God's existence.

One of the most powerful and easy-to-understand proofs for the existence of God is the argument from design. You might word the argument this way: (1) Since design demands a designer, and (2) since the Universe is full of examples of complex, functional design, then (3) there must be a Designer who designed the Universe and everything in it.

The design argument is easy to understand and remember. But what makes this argument even better is that it can be illustrated by observing the design of countless, remarkable things—not the least of which is **the design seen in the human eye**.

Evolutionists teach that your eyes are the result of time, non-intelligence, and chance. Yet, when you look in a mirror, evidence of complex, functional design, which demands more than evolution, is staring you in the face.

Think for a moment about the location of your eyes—they are in the perfect part of your body. Your eyes do not dangle from your cheekbones, nor are they tucked away under your arms. Your eyes were

put in the perfect place—in protective pockets called orbits (or eye sockets). Soft and fatty tissues line the orbits and provide necessary cushion. This tissue, along with six muscles, also enable each eye to move extremely effectively.

In addition to your perfectly designed eyelids and eyelashes, which help to protect your eyes from all sorts of things, your eyes also come with their own mucus and tear factories, called the conjunctiva membrane and lacrimal glands. These important outer-eye parts are able to lubricate the eye well and keep it clean.



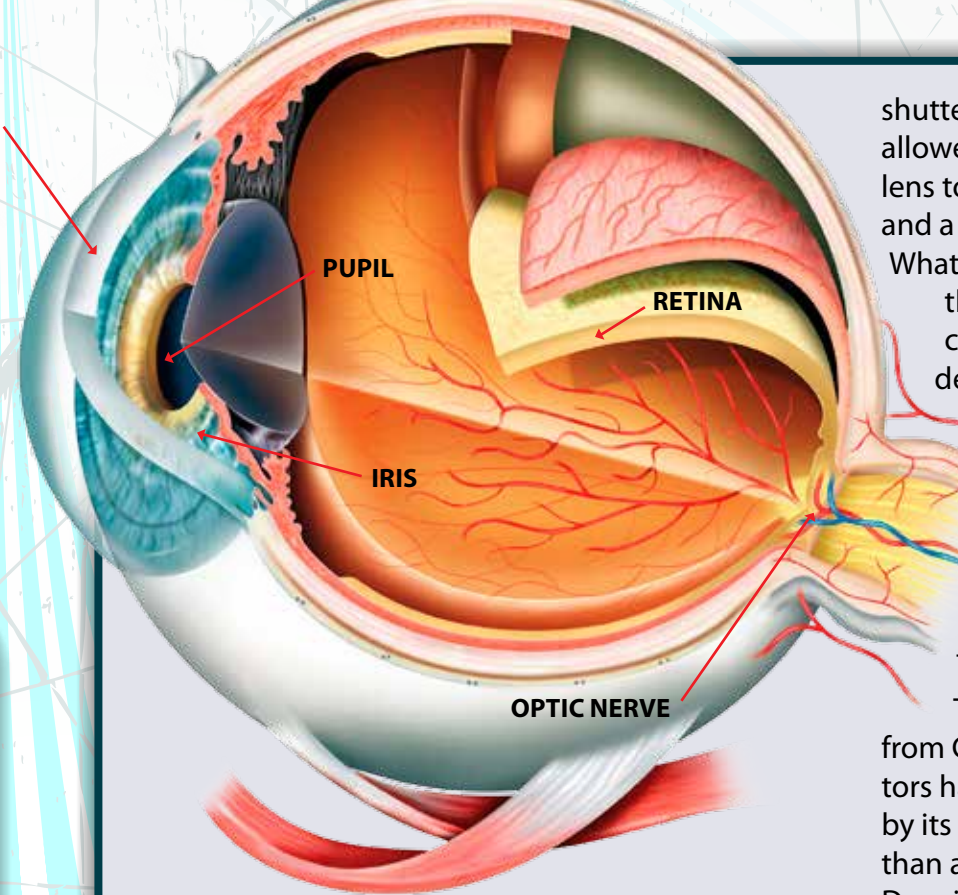
CORNEA

PUPIL

RETINA

IRIS

OPTIC NERVE



Now to your actual eyeballs.... Each of your eyes has an aperture (or an opening), called a pupil, and an iris that **automatically** adjusts to make sure just the right amount of light passes through the eye. On top of the iris and pupil is a kind of clear protective plate called a cornea.

Once light passes through the cornea and pupil it moves through a lens, which can adjust its shape to help clarify the image. The picture is then focused on to the retina. Your retina contains two kinds of light-sensitive cells (called rods and cones) that convert different types of light (red, blue, green) into chemical signals. (Fascinating!) Those signals pass from the retina to the optic nerve, and then on to the brain where the picture is stored. And all of this is done in a fraction of a second...as signals from the eyes to the brain travel along nerves at hundreds of miles per hour.

Does this sound like the result of an accident? Is this the product of non-intelligence? Or is this the work of a Designer?

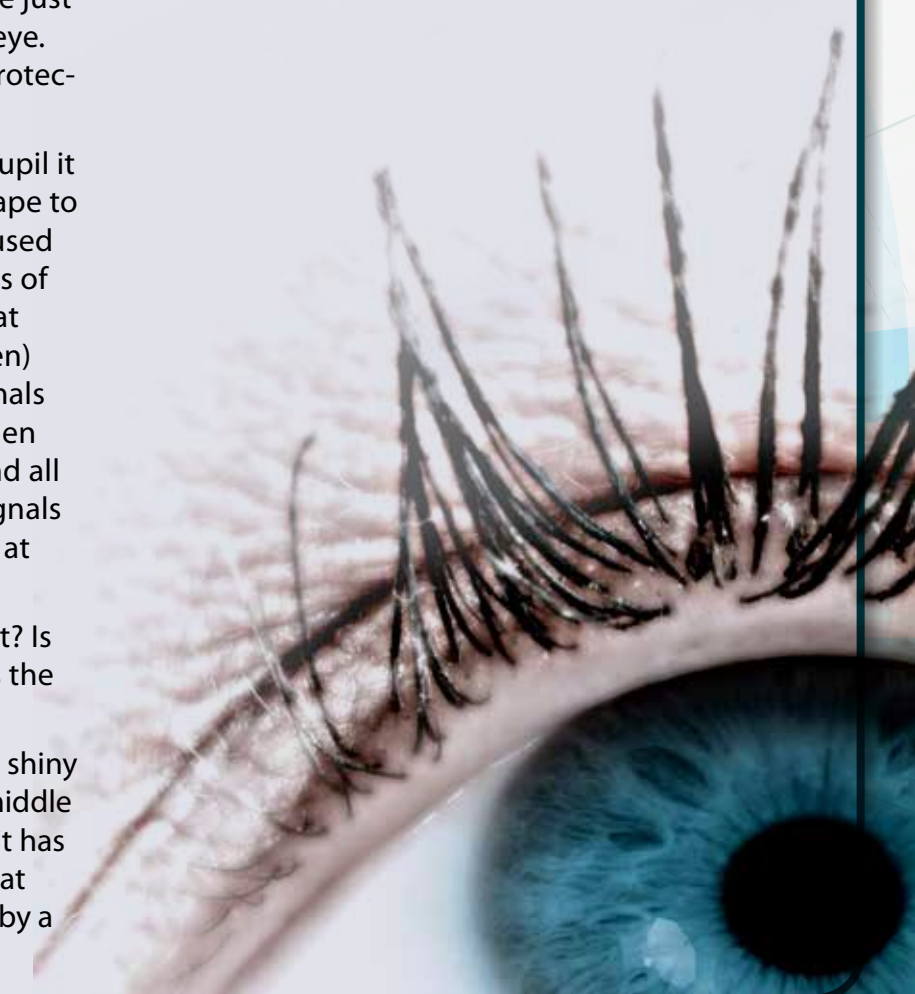
Imagine waking up one day and seeing a shiny new digital camera on the floor in the middle of your room. You quickly notice that it has a tiny opening, called an aperture, that lets in light. The aperture is covered by a

shutter, which regulates the length of time light is allowed through the aperture. The camera also has a lens to help focus the image being photographed, and a computer memory card to store the image.

What would you think if your science teacher said that your camera simply evolved by time and chance? Even though it looks like it has been designed and it works perfectly, you are asked to believe that the camera had no designer or creator, but is the product of evolution. Such a thought is absurd.

No sane person would argue that your new camera evolved naturally over millions of years. Likewise, no one can rightly conclude that the human eye is the product of evolution.

The truth is, your sense of sight is a blessing from God, and it is evidence of His existence. Doctors have studied it for centuries, and are awestruck by its complex design. The human eye is far better than any camera. So much so that even Charles Darwin had to admit: "To suppose that the eye... could have been formed by natural selection, seems, I freely confess, absurd in the highest sense."





# Eye Hall of Fame

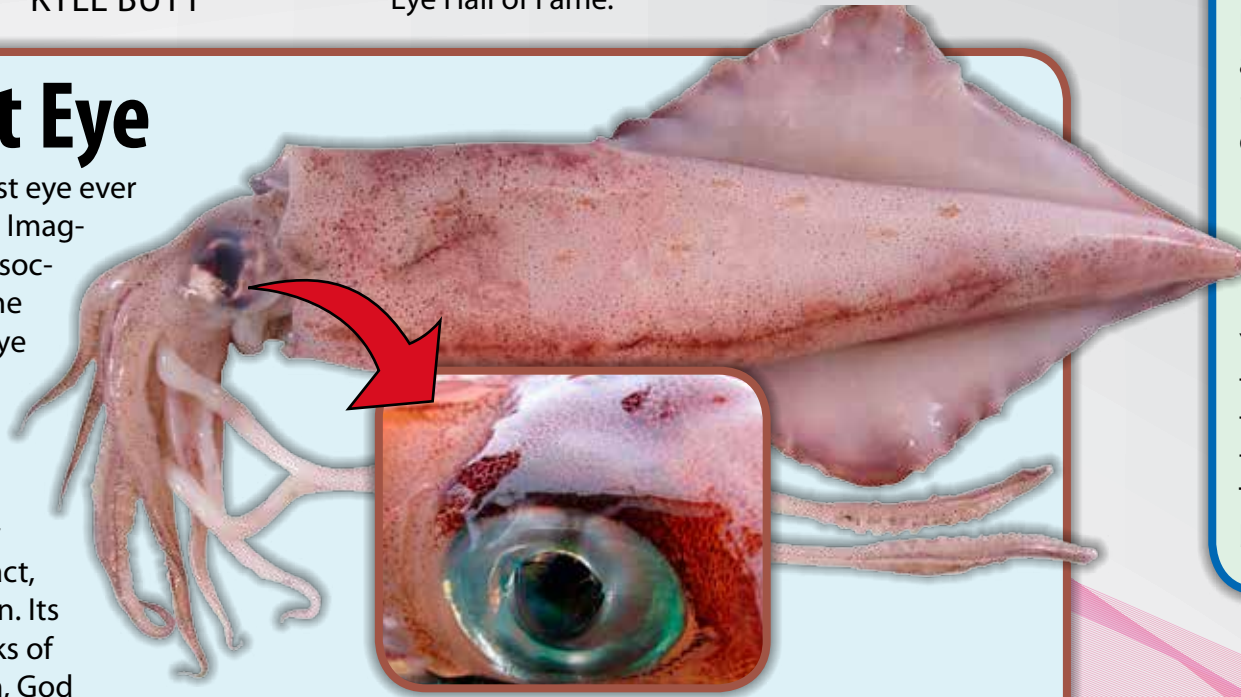
KYLE BUTT

## GOD SURE DOES

ENJOY GIVING HUMANS A WONDERFUL VARIETY OF THINGS TO STUDY. IN THIS issue of *Discovery*, we are learning all about eyes. Have you ever wondered which eyes are the biggest, which ones can see the farthest, or which ones can detect motion the best? If you have, then you have come to the right place to get answers to your questions. Let's explore God's Eye Hall of Fame.

## The Biggest Eye

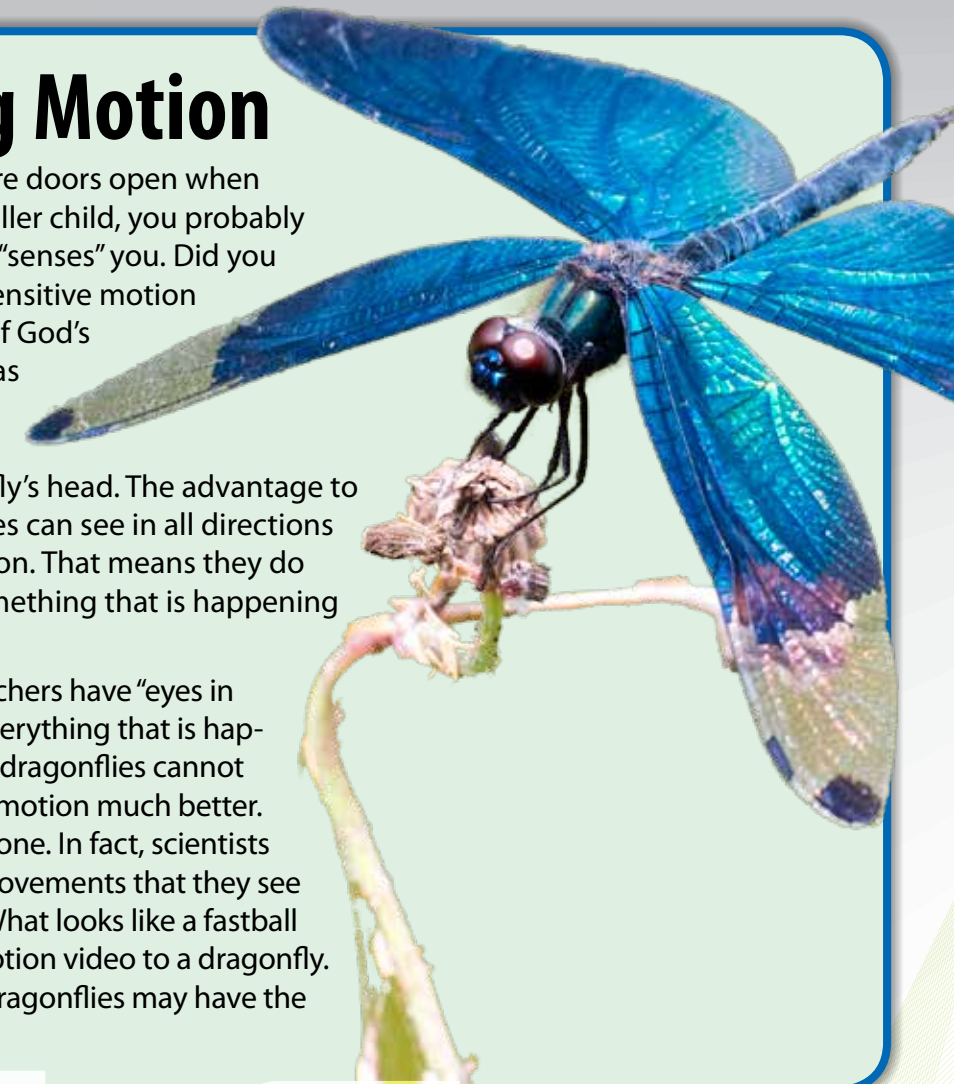
Without question, the largest eye ever seen is the colossal squid eye. Imagine an eye about the size of a soccer ball and you start to get the picture. The colossal squid's eye measures almost 11 inches across. That is about the size of a dinner plate. Why does it have such a big eye? It lives deep in the ocean where very little sunlight penetrates. In fact, it can dive over one mile down. Its big eye gathers any tiny specks of light to help it see. In addition, God designed this big-eyed giant with its own headlight system. Each of the squid's eyes has something called a photophore attached to it that actually creates light from bacteria and shines it in front of the eye just like a huge flashlight. There is no possible way this massive, well-lit eye could have evolved. God made it.



## Best at Detecting Motion

Have you ever wondered why grocery store doors open when you walk up to them? When you were a smaller child, you probably learned that there is a motion detector that "senses" you. Did you know that there is a creature with a super-sensitive motion detector? That's right, the dragonfly is one of God's most amazing creations. It has eyes known as compound eyes. These eyes are made up of almost 30,000 different lenses. And these eyes take up most of the room on a dragonfly's head. The advantage to having so many tiny lenses is that dragonflies can see in all directions at the same time. They have 360 degree vision. That means they do not even have to turn their heads to see something that is happening directly behind them.

Some people have joked that moms or teachers have "eyes in the back of their heads" and they can see everything that is happening, but **dragonflies really can!** While dragonflies cannot see as clearly as humans, they can pick up motion much better. You know this if you have ever tried to catch one. In fact, scientists think that dragonflies can detect such tiny movements that they see things in what we would call "slow motion." What looks like a fastball to a baseball batter might look like a slow motion video to a dragonfly. This fact leads many people to believe that dragonflies may have the best eyes for detecting motion in the world.



## Eyes That See the Farthest

Which eyes can see the farthest?

The eyes of birds of prey can spot something as small as a rabbit more than two miles

Bald Eagle

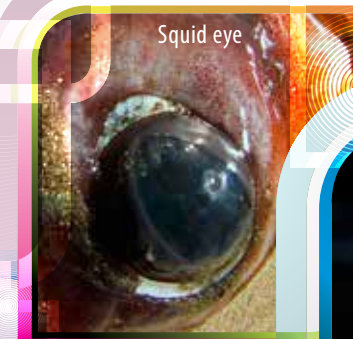
away. Two miles is over 10,000 feet. That is more than 33 football fields. We do not know exactly which birds of prey have the best eyes, but bald eagles and golden eagles would be among them. When we study their eyes, we see that they have eyes almost as large as human eyes, but the birds only weigh about 10 pounds and average humans weigh more than 130 pounds. That means, for their size, eagles have humongous eyes that work extremely well.

Golden Eagle



## Conclusion

God sure has blessed the world with a wide range of interesting eyes to study and learn from. The next time you see one of these amazing eyes, remember to "see" the truth: only God could create such eye-popping designs.



Squid eye



Dragonfly eye



Eagle eye



# ACTIVITY PAGES



## TRUE OR FALSE

- \_\_\_ It is perfectly logical to believe that the human eye evolved over millions of years.
- \_\_\_ The human eye is proof that God, the Designer of all things, must exist.
- \_\_\_ Design demands evolution.
- \_\_\_ The Universe is full of examples of complex, functional design.
- \_\_\_ The colossal squid's eye measures almost 11 inches across.
- \_\_\_ All eyes are the same.
- \_\_\_ Scientists think that dragonflies can detect such tiny movements that they see things in what we would call "slow motion."
- \_\_\_ Your retina contains light-sensitive cells called photograms.

## SOLVE, FIND, AND CIRCLE

- A kind of clear protective plate on top of the pupil and iris. \_\_\_\_\_
- Protective pockets for your eyes. \_\_\_\_\_
- The eye opening. \_\_\_\_\_
- Animal with the largest eye. \_\_\_\_\_
- Birds of prey that have some of the best eyes. \_\_\_\_\_
- Animal with eyes that are made up of about 30,000 different lenses. \_\_\_\_\_
- Able to check the temperature of the liquid in your eyes. \_\_\_\_\_
- Two kinds of light-sensitive cells in your retina. \_\_\_\_\_ and \_\_\_\_\_



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Dear Digger Doug,  
 Were leviathan and behemoth created on the same day?  
 —Isabella

Dear Isabella,

Thanks so much for asking this great question. Before we answer the question, we have to understand what leviathan and behemoth actually were. These two creatures are described in Job 40-41. There we read that the behemoth "ate grass like an ox" and moved "his tail like a cedar." The text says "the mountains yield food for him and all of the beasts of the field play there" (40:20). This description leads us to believe that the behemoth was a very large, land-living animal like a dinosaur. If that is the case, then we know that God created all land-living animals on day six of creation. Job 41 describes leviathan. This creature had "rows of scales." The Bible also says "he makes the deep boil like a pot; he makes the sea like a pot of ointment" (41:31). The word "deep" in the Bible refers to the ocean or a huge body of water. This verse means that when the creature swims, he leaves a massive bubbling wave behind him. So, leviathan was probably a creature that lived in the water. If that is the case, then leviathan would have been created on day five, when God made "great sea creatures" (Genesis 1:21). So God most likely made leviathan on day five and behemoth on day six.







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ADDRESS SERVICE REQUESTED

# EYE-VOLUTION or CR-EYE-tion?

JEFF MILLER

Have you ever felt a gust of wind hit your eyes? Did you tear up afterwards? This is an amazing design feature of the body's temperature system that protects your eyes. Could evolution have caused such a feature?

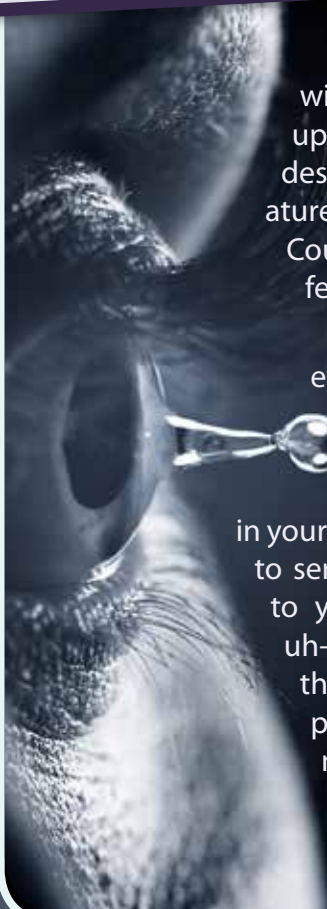
Located in the corneas of your eyes are thermoreceptors (thur-moh-ree-SEP-ters), which just happen to be able to check the temperature of the liquid in your eyes. They just happen to be able to send that temperature information to your hypothalamus (hi-po-THAL-uh-mus) in your brain. They send that information along special pathways that just happen to connect the thermoreceptors to the brain, called effector (ee-FECT-er) nerves. The brain just happens to be able to figure out what to

do with that information. If the temperature is too cold, it just happens to decide to send a message back to the eyes to tell the tear ducts to make tears—warm liquid that will heat your eyes and protect them. That's a lot of thinking, purpose, and decision making that had to come about by mindless evolution that just "happened," don't you think?

Do you think it makes sense that evolution could accidentally, all of a sudden one day, simultaneously develop the entire tear system, including the corneas, effector nerves, thermoreceptors, tear ducts, hypothalamus, and the ability of those objects to communicate with each other? Or does it seem more reasonable that those items were designed by an Engineer with a purpose in mind for those things when they were created?

Eyes are so amazing that engineers in Illinois studied them to figure out how they can see such a wide view with a single glance. Then they designed a special camera in the shape of the human eye. They discovered that by using the design of the eye for their camera, they were able to take wide-angle pictures without the image being messed up—just like the human eye can.

Now why would anyone design something based on an evolutionary **accident**? It makes more sense that designers designed this special camera because they saw an amazing **design** that they wanted to copy. And where there is design, there is always a designer. Truly, "the hearing ear and the seeing eye, the Lord has made them both" (Proverbs 20:12).



## ANSWERS

SOLVE, FIND, AND CIRCLE: 1. cornea; 2. orbits; 3. pupil; 4. colossal squid; 5. eagles; 6. dragonfly; 7. thermoreceptor; 8. rods, cones.  
 TRUE OR FALSE: 1-F; 2-T; 3-F; 4-T; 5-T; 6-F; 7-T; 8-F.

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