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# Creation Answers

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## Who writes this newsletter?

This newsletter is produced by Wayne Spencer on a Quarterly basis. Its purpose is to bring creation research within the reach of Christians and provide up-to-date reliable information on creation issues. Wayne Spencer is a creation author and former teacher who has presented papers at the International Conference on Creationism and has published in various creation publications, such as the Creation Research Society Quarterly, Creation magazine, the Journal of Creation, and Origins (from the Biblical Creation Society, UK).

This newsletter is meant to help people plug into creation resources and get informed about creation and evolution. It is provided free of charge on request. Using the free Adobe Acrobat Reader is necessary for viewing the newsletter. There are no restrictions in copying this newsletter or passing it on to others. To request to be placed on the e-mail list, send a request to [wspencer@creationanswers.net](mailto:wspencer@creationanswers.net).

More information on Wayne Spencer's education and publications can be found on the [creationanswers.net](http://creationanswers.net) web site. You'll also find many other resources.

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## A Personal Note from Wayne Spencer

Greetings,

I want to thank you all for your interest in my newsletter. I am a bit late sending this out this time because of recently getting sick with a bad cold. But I am fine and I thank God for a good past year and pray for his grace for the new year (2015).

In this issue I deal with flight. Human aircraft engineers can do amazing things today. There are now small robotic drone devices that literally imitate hummingbirds or insects in their flight. Yet engineers cannot explain everything living things do regarding flight. There is so much evidence for God's existence and intelligent design in how living things fly. I'm struck by the variety of ways that different creatures fly. There are similar design principles at work but yet there are unique methods in different flying creatures. So I try to address flight for different types of flying creatures, and do it from an engineering perspective. I hope you enjoy it.

I have not published any new articles recently but there is one possible paper in process. I have been teaching on creation at my church in an adult Sunday School class series. I have not added new material on my blog for some time because of a technical problem with it. I do hope to publish more articles in 2015, God willing.

I have reviews in this issue on a new book on dinosaurs and a new video. These are both excellent resources. I felt it was important to make people aware of them.

Wayne Spencer, M.S., Physics

## ***The Impossibility of Flight Evolution***

One of the wonders of the living world is flight. It's enjoyable and thought provoking just to watch. It should make us consider the Creator. There are many amazing aspects of how various creatures fly. There are different types of flight in creatures of different groups. So for instance insects fly in a different way than birds, for example. Even just looking at birds, the hummingbird can do things like hovering and flying backwards, which is totally unlike other birds. Then there are bats and the flying reptiles. The flying reptiles include the pterosaurs and pterodactyls, which are believed to be extinct. These are reptiles (which lay eggs). But bats also fly and they are mammals. There are some similarities between how bats fly and pterosaurs but no evolutionist would propose that bats evolved from pterosaurs. Thus, evolution has to say that flight evolved several times separately, to explain the various types of flight that exist in the living world. Therefore this article will address problems with the evolution of flight in living things.

### **No Common Flying Ancestor**

Evolution claims that all life came from a common ancestor. Thus the usual answer to why different species of living things have similar characteristics is that they are believed to both come from a common ancestor that had that characteristic. Thus, mammals have male and female sexes because they allegedly descended from a creature that had maleness and femaleness which was a common ancestor to both today's reptiles and today's mammals. The first origin of male and female sexes is a problem for evolution to explain but if you can accept that sex did evolve in the first place, then many organisms could possess sex as a characteristic from that time forward.

The idea of a common ancestor does not work well regarding the evolution of flight

in the living world. Consider organisms like flies, dragonflies, eagles, hummingbirds, flying reptiles, and bats. Many birds do fly in a similar manner but hummingbirds are unique among birds in their flying abilities. Many insects fly in a similar way, but it is different from how birds fly and then there is the dragonfly, which may be unique among insects that fly. Dragonflies have four wings that it uses independently in a very complex manner. In fact, there are a number of variations in how different groups of insects fly. Bats and pterosaurs have certain similarities in how they fly by controlling their wing shape, but they each do it in a different manner.

Bats and pterosaurs each have unique "equipment" that enables them to fly as they do by controlling the wing shape. Pterosaurs are very different from bats in multiple body systems. Reptiles lay eggs and are cold-blooded, making their temperature determined by the surroundings. But bats are warm-blooded, meaning they maintain their body temperature as different from their surroundings. Also bats bear live young as other mammals. Bats also have other unique qualities such as their use of ultrasonic sound for echolocation. Bats and flying reptiles are too removed from each other in the evolutionary "tree" for a flying reptile to evolve directly into a flying mammal. Evolutionists believe reptiles evolved into mammals and then later after small mammals were established, one of them evolved the ability to fly like the bats. Insects are obviously very different than reptiles or birds or mammals. These types of creatures are too different to have a common ancestor.

So for all these reasons, evolutionists do not believe there was a single common ancestor of all living creatures that fly. This means that flight had to evolve several times. But how can something with so many special requirements come from random mutations?

### **Coordinated Specifications for Flight**

Flight requires complex specifications. Though humans build planes, jets, and

helicopters that fly, human engineers have long studied living things that fly to improve flight technology. Today there is much interest in engineering research on how to design robotic flying devices, such as drones. There are now some sophisticated small robotic flying devices, such as one that flies and hovers similar to a hummingbird, and another that flies like a dragonfly.

Below is a list of seven types of systems that must be in place in order for flight to be possible. In each system, there are many specific requirements or specifications that must exist. Moreover, all the parts must function together. If a bird had wings that were ideal for flight, but it could not control them, it would probably not survive. Or if the wings were well suited to flight, but the respiratory system and heart/circulatory system could not generate enough energy to do it, what good would the wings be? If a bird could not fly effectively because some of its systems were not adapted to flight, it would make it vulnerable to predator and may make it impossible for it to find a mate. Human engineers deal with all these flight systems in designing aircraft. The same systems must be well-suited to flight in living things.

- Structural Body Plan/Skeleton
- Wing Design
- Flight Control systems
- Power Plant/Respiratory & Circulatory System
- Power train/Musculatory System
- Sensory Systems
- Navigation System

Let's consider the first of the above, the structural design of flyers. There are a variety of forces on the wings and skeleton of birds, or pterosaurs for instance. In aircraft engineers refer to this as the airframe. This has to do with the overall design of the structural parts and their arrangement. Proper proportions and materials are critical or the aircraft (or bird) could literally come apart in the air. Birds and pterosaurs both have hollow bones. Pterosaurs, like birds,

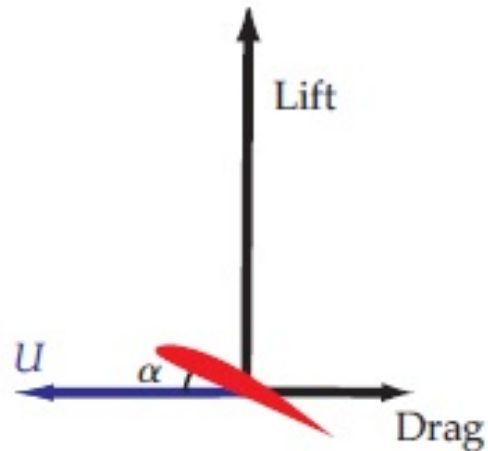
had a system for pumping air into the interior of their bones. There are also special structures like air sacs in the wings that are near the abdomen and around the arms of pterosaurs. All this keeps its weight down. Most birds are rather light and to have adequate structural strength, the bones have boney struts inside them. Pterosaur bones also have many struts inside for strength. One Pteranodon (a flying reptile) fossil specimen is about 22 feet wide in its wingspan. But scientists estimate even a large pteranodon may only have weighed about 25 pounds. Note that it is not pterosaurs that birds are believed to have evolved from, according to evolutionists. Other dinosaurs are believed to have evolved into birds. Though there are many problems with the concept of birds evolving from dinosaurs, one of them not answered by evolutionists is if dinosaurs evolved into birds, how did the bones change to become hollow? A land reptile would not be safe with hollow bones because they would easily break under its weight. Nonflying reptiles do not have hollow bones. (The ostrich, which does not fly has some bones hollow and some not hollow.)

The body plan and skeleton must maximize the strength to weight ratio. Note also that the way the skeleton of a bird or pterosaur is made also dictates how the muscular system must work. Scientists know a lot about pterosaur skeletons but not so much about their muscular system. The structural design of insects is different because they are much smaller generally than birds or flying reptiles. Insects have exoskeletons (a shell) instead of internal bones. We know that modern aircraft require intelligent engineering in order to fly. The same is true of living things that fly. Random mutations are the source of new information in living things, according to evolution. But random mutations in different body systems cannot be coordinated to work together or evolve together. Natural selection cannot coordinate systems either, it can only weed

out what doesn't work. So there must be an engineer behind living things that fly.

Next we can consider wing design and flight control systems. First a little bit of physics on wings and flight. See Figure 1, showing a cross-section of a wing. The direction of motion is shown using the blue arrow labeled with  $u$ . Lift is the force upward and drag is the air resistance that opposes the motion. Angle  $\alpha$  is called the angle of attack. Lift comes from the fact that from the shape of the wing, the air travels a greater distance over the top of the wing than it does going under the wing. This makes the atmospheric pressure less above the wing than below it, thus pushing it up. Aircraft generate lift by using the engines to force air over the wing. But living things have moving wings, unlike aircraft, which have fixed wings. Aircraft vary the shape of the wings by flaps which are made on the trailing edge of the wing.

Getting something into the air requires more lift than keeping it in the air. Turning in the air requires making changes to the wing shape so that one side is different than the other side. It's also important to be able to control certain kinds of air turbulence so that turbulence doesn't cause problems. Among the various living things that fly, there are different styles of flight. For instance, insects rapidly beat their wings all the time and never glide. But pterosaurs probably did glide some of the time, as do some large birds today. Also, creatures that only glide don't have to have such sophisticated coordination of systems as creatures that do real powered flight. So for a flying squirrel to be able to glide between trees is much simpler than for a bird to do powered flight between trees.



**Figure 1** Wing cross-section in red. Direction of motion depicted with blue arrow  $u$ . Angle of attack  $\alpha$ .

Consider the differences between a hummingbird and an eagle for example. There is a video on [“Flight: the genius of birds”](#) by Illustra Media which explains this nicely. Hummingbirds have unique capabilities because they can fly in three different modes. They can fly forward, hover, or even fly backward. They use three different kinds of wing motion to do this. They also use their wings in such a way that there is a very large angle of attack. This makes it possible for them to be lift both in their “downstroke” and their “upstroke”. This is something other birds can't do. The skeletons of most birds does not allow the variety of motions used by the hummingbird. So the skeleton, muscles, and nervous system have to all work together in a coordinated way. In the hummingbird nerves and muscles have to operate at extreme speed compared to the eagle. Also hummingbirds have an extremely rapid heart rate so they can generate the necessary energy. A bird like an eagle only experiences lift on the downstroke of their wings, not on the upstroke. Also an eagle cannot turn it's wings at the shoulder joint in the way a

hummingbird can. But both the hummingbird and the eagle do what they are designed to do very well.

Insects demonstrate very sophisticated design also. Insects use a large angle of attack but they rely a great deal on vortexes (or air swirls) to generate their lift. Their wings usually rotate as they flap. Birds sometimes have special feathers for controlling air swirls around the wing so as to enhance lift. For a long time engineers and scientists thought pterosaurs and pteranodons would have trouble getting airborne. But after more research it is now known that pterosaurs have a special bone called the pteroid near the front edge of their wing. The pteroid had an attachment for skin. So the pteroid was used similar to a plane's flap. It enabled the pterosaur to get about a 30% boost in lift to help it take off! There are similar design principles at work in the different styles of flight in living things. But, the specifics of how it works is often different for each type of living thing.

Insects also have sophisticated flight control mechanisms. How are flies able to do such quick and intricate flight maneuvers? They can often out maneuver a fly swatter. Scientists didn't understand how they did this until they studied the function of something flies have called the halteres organ. You could think of the halteres organ as similar to a gyroscope, that helps the fly make quick corrections when its orientation changes, such as in turns. But the halteres organ is more than this. Signals from the brain go to both the halteres and the wing muscles. So this allows for extremely rapid reaction to whatever is happening to the fly in flight. Dragonflies are extraordinary also. They have a unique system of flight control because they have four wings. They can use the two sets of wings either in phase (beating together) or out of phase. The result is that they can use them to either save energy or enhance lift, for example.

Next the Respiratory/Circulatory systems in living things function like what aircraft engineers would call the power plant.

This is where the energy comes from for flying. Birds have a unique flow through design that is very different from how reptiles or mammals breathe. Our lungs have a one-way motion of air, it goes in, oxygen is extracted from the air, then the used air is exhaled. One-way in and then one-way out. For birds it's more of a continuous flow through system (birds have no diaphragm like us). It is now believed by scientists that pterosaurs had a similar flow through system, but this is not certain. This continuous respiratory system allows birds to keep themselves airborne and fly in a steady manner.

I will not go into detail on all the various flight systems, though much more could be said. The real crucial point in this is that all the systems have to be working together or it has no benefit to the organism. It doesn't work for the skeleton to evolve for flight without the muscles also working properly with the skeleton. Bird's muscles are arranged the same as reptiles or mammals because they are geared to flight and maintaining balance. If the bird's wings evolve for flight but it cannot sense what is happening in its muscles and wings, this could be a fatal problem. A strong gust of wind might knock them out of the sky. I haven't even addressed navigation. Birds use a variety of methods to navigate, including the earth's magnetic field, natural landmarks, the angle to the sun, and smell. If the navigation didn't work, they would not be able to reproduce. But evolution would say each separate system had to change by random mutations so that everything just happened to work together at the same time. Presumably there would be many dead Arctic Terns before they figured out how to migrate almost from the South Pole to the North Pole. All body systems must be designed for flight, or it wouldn't work and the organism probably could not survive.

There are exceptions to "perfect design," because we live in a fallen world, not the world as God first created it. Take the flightless Cormorant birds on the Galapagos



islands for example. These Cormorants have lost the ability to fly from a mutation affecting their wings. In most parts of the world they could not survive, but on the Galapagos islands they can make it because there are no predators that threaten them there and there is no need for them to migrate. Normal Cormorants are found in a number of places around the world, usually around coastlines. An exception to design like this does not support evolution because it can never become the norm in the population. In other words, there is no way that all Cormorants will one day be flightless just because some can live that way on the Galapagos islands. It's also not surprising from a creation viewpoint that mutations could cause this kind of problem.



**Figure 2** A flightless Cormorant bird from the Galapagos islands

### Knowledge of how to fly

Consider the problem of knowing how to fly. A bird or insect doesn't have to understand all the physics and engineering aspects of flight in order to fly. They wouldn't



**Figure 3** A normal Cormorant from Japan

have to solve equations like an engineer would to design an aircraft. But there are certain things it needs to know instinctively without learning. There are tests which show that birds must have some innate knowledge of how to fly. Certainly birds learn some as they fly, but even without a parent teaching them they can fly to some degree. The special use of the wings in the hummingbird or the dragonfly require special "techniques" on how to use it. So the way they fly is not simple at all and it is doubtful that a hummingbird could learn by watching another bird because the wings move too fast to see them clearly. How can they have this instinctive knowledge? There is no explanation I know of to this from science. How did the hummingbird or the dragonfly acquire this instinctive knowledge? If they evolved, how did they make it before they had this knowledge? There are things about how memory works in birds or other creatures that are not fully understood. This is a mystery that points to a Creator who has somehow encoded information into the DNA of creatures that fly.

Where did the sophisticated know-how come from? Evolution cannot explain it from learning or random mutations or natural selection. Today's genetic knowledge cannot explain it. Perhaps someday we may know more. How is it that unintelligent creatures (compared to us) can display so much evidence of intelligence? There is enough

sophistication in the flight of a fly or a dragonfly to amaze any engineer.

Flight in the living world is wonder compounded by wonder. Engineers will always be challenged by the complexity of what flying creatures do. It is too implausible for flight to come about by a process like evolution. It requires an infinite Creator. It makes me think of Romans 1:20, ***“For since the creation of the world God’s invisible qualities—his eternal power and divine nature—have been clearly seen, being understood from what has been made, so that people are without excuse.”***(NIV, 2011)

### ***The New “Guide to Dinosaurs” Book***

Recently the Institute for Creation Research published a great new picture book on dinosaurs. It’s called “Guide to Dinosaurs.” It does not have an author listed per se, but the primary contributors are science writer Brian Thomas and geologist Tim Clarey.

Dinosaurs are a high interest topic for kids and so there is always a need for a good book on dinosaurs that gives a creation viewpoint. This book does a very good job of relating dinosaurs to creation, the Flood, and the post flood period. It deals with evidence humans and dinosaurs have lived at the same time and gives many interesting up-to-date facts on dinosaurs. I think it is particularly good in pointing out evidence for Noah’s Flood from dinosaur fossils. It explains why the Jurassic Park movies were incorrect on Velociraptors. It also has a lot of interesting history about scientific discoveries on dinosaurs. The color illustrations are very good also, some being drawings and some photos of fossils. There are often pictures of scientists who made various discoveries. Sometimes mistakes made by the original discoverers is pointed out as well. One particularly interesting photo of a fossil shows a small dinosaur, Sinosauropteryx, next to a fish. This shows how land animals and sea

creatures were sometimes buried and fossilized together in the Flood.

This book has much to recommend for young people and adults. There were facts in it I did not know. The text is laid out in two different font sizes. I would guess perhaps a 5<sup>th</sup> or 6<sup>th</sup> grader would understand the larger font content and this would give them the main ideas. But an older reader can get much more detailed information by reading the many sections with the smaller font. You can also spend many hours just enjoying the pictures. Guide to Dinosaurs is available from [ICR.ORG](http://ICR.ORG) or [Creation.com](http://Creation.com).

### ***Evolution’s Achilles’ Heels Video***

Once in a while a video comes along that is an important source for showing the problems with evolutionary science. I think one of the best programs to come along in a long time is “Evolution’s Achilles’ Heels” from Creation Ministries International ([Creation.com](http://Creation.com)). The idea of an “Achilles Heel” is an vulnerability in something that seems to be invulnerable. This is a good picture of the science of evolution. Evolution theory is really very vulnerable to findings from recent research.

This program has 15 people with Ph.D. degrees in various scientific fields, from various countries. It summarizes evidence against evolution in biology, geology, and astronomy. I would say the program is strongest perhaps in biology and genetics, but it is all good material and very up-to-date. It also addresses the relevance of the origins issue mainly at the end. It has lots of wonderful information that includes very recent research discoveries. This program is a big encouragement to Christians and I would strongly recommend it. The program is very well done and is available on Blu-Ray disc or DVD from [Creation.com](http://Creation.com). [Click here](#) to go to the youtube website to watch the video trailer for this film.