

The Wonder of it All: The Miracle of Flight

By Mark Jurkovich

Man has always wondered at birds in flight. And so we should! We are still trying to figure out how some flying animals do it. And the more we do understand, the more it points to an all powerful and loving creator.

First, if evolution were true, then flight would have to evolve independently at least three separate times; in insects, in birds, and mammals (bats). And don't forget pterodactyls and other pterosaurs! To have evolved even once is astounding, but three or more times is miraculous! (And who says evolutionists do not believe in miracles?)

Each animal type (insects, birds and bats) have unique designs to enable flight. And even within one kind, we see a wide variety in flight design and style. A quick look tells you that the hummingbird, falcon and condor all have very different flight designs. These very different birds have much in common, but that is nevertheless unique to birds. Let's look at some of these amazing and unique features that shout design by a loving creator.

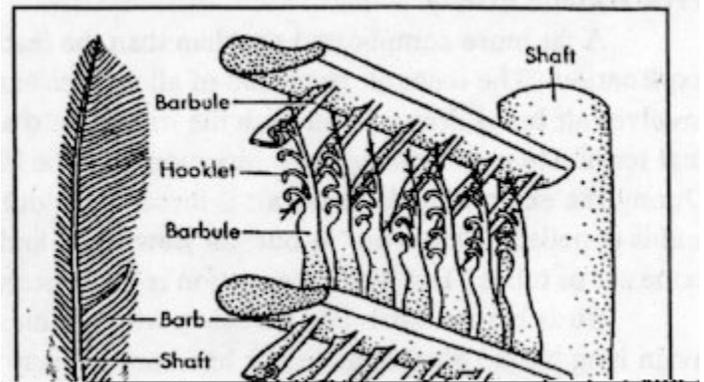
The first one that just about everyone knows is that birds have hollow bones. Indeed hollow bones makes for a much lighter bird, but without an amazing interior 'truss work' design, they would not have been strong enough. In fact this truss arrangement in bird bones inspired aircraft wing design.¹

Next of course are feathers. But there are



several types of feathers all on one bird. You not only have primary, secondary and tertiary feathers, but also specialty feathers such as one called the alula, or finger feather. The alula sits on the leading edge of the wing acting just like leading edge spoilers on aircraft wings

giving extra lift and control when needed.² Then you get into the design of each feather, you again marvel at God's handiwork. Key to feathers are light weight, interlocking barbs and barbules that allow for sliding and flexibility. When a bird preens, it is lubricating these sliding marvels of design. Then there is of course the ability of a bird to turn its head 180 degrees to perform the preening. Just try to turn your head that far!



A bird also requires a special muscle arrangement in order to efficiently pull its wings up as well as down.

“One is the tendon that emerges from a chest muscle in most birds. It is threaded through a hole in the bird's bone, wraps around a “pulley,” and then is attached to the top of the humerus bone. This way, when the muscle flexes, the wing moves up. Each specification involved is exactly fitted to perform its needed function. If only one of them failed to work, the bird would not fly.”³

Finally, birds have a unique lung system. Mammals have what is called a bellows system. If birds had that, they would likely have to breathe in and out with each up and down stroke. But birds need oxygen continuously while in flight. Birds have what is called a counter flow mass exchanger, which allows them to get oxygen even while breathing out.

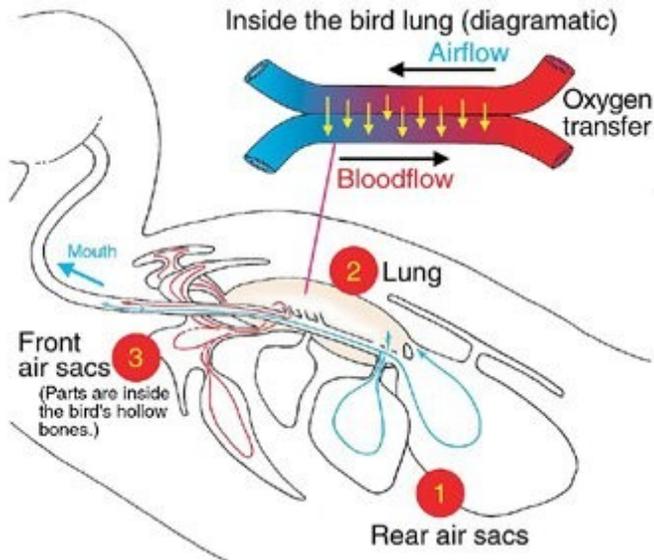
“birds have a complicated system of air sacs that makes use of even the hollow bones. This system keeps air flowing in one direction through special tubes (*parabronchi*, singular *parabronchus*) in the lung, and blood moves through the lung's blood vessels in the opposite direction for efficient oxygen uptake, an excellent

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engineering design.”⁴

On top of all this some feathers are there just for beauty's sake. “A peacock tail has no clear function other than to display beauty. Such exquisite beauty can be explained only if a designer added it purposefully. No observational evidence supports the alternative theory of sexual selection.”⁵



So the next time you wonder at an animal in flight, use it to remember again to thank the one who's infinite, creative, and loving power, gave you that beautiful sight.

Get these resources at Arkys store:

DVD “Design of Life: Vol 1—Flight: the genius of birds”, by CMI

DVD “The Intricacies of Flight”, Dr. Andy McIntosh, by AiG

References:

1- DVD “The Intricacies of Flight”, Dr. Andy McIntosh, by AiG

2- *ibid*

3- <http://www.icr.org/life-designed>

4- <http://creation.com/flying-creatures-created-or-evolved>

5- Answers, vol. 10, no. 1, Jan-Mar 2015, p. 71. <https://answersingenesis.org/evidence-for-creation/design-in-nature/beauty-undeniable-witness/>

Photo credits:

Bone: <http://creationrevolution.com/designed-for-flight/>
Feather:

<http://brightmorningstar.blog.com/2008/03/22/bird-feathers-defy-evolution/>

Lungs: <https://answersingenesis.org/intelligent-design/100-years-of-airplanes-werent-the-first-flying-machines/>

The Wonder of it All: More on the Miracle of Flight

By Mark Jurkovich

Last issue, I covered the miraculous mechanics of flight, the beautiful way God designed birds to enable flight. But that still is not enough to guarantee flight. You still need something called stability and control, which simply means getting the aerodynamics right. Everyone has heard about the modern technological marvels that the increasingly popular quad copters are. But most don't realize the extensive sophisticated design process that has gone into making them automatically controllable. Without that design, your everyday person would have never been able to fly one. If it has taken mankind so long to be able to design and build these flying machines, what does that say for our creator who has designed myriads of much more sophisticated flying creatures in one day?



Moving hummingbird tail

Just think of all the vastly diverse creatures that fly. From the hummingbird that can hover and fly backwards, to the giant soaring condor, to the aptly named swift (one species can fly over 100 mph!), to the even faster and highly maneuverable falcon. Then the insect world has an even greater diversity in types of flying creatures; butterfly, dragonfly, house fly, beetles that hide their wings when not flying, and the bee just to name a few. I can remember

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the saying even used to be that, "The bee should not be able to fly, but it does not know it. So it does it anyway." So much for man's superior knowledge. Intense research continues in studying how many of these insects fly, in hopes of mimicking them in the designs of miniature flying machines. Truly we are "thinking God's thoughts after him." (Johann Kepler)

The differences are so great, it is crazy to believe that all these insects evolved from one ancestor, and all these birds evolved from one proto bird; or even worse that flight evolved independently multiple times within the insect world, and bird world, not to mention bats and pterosaurs. But I repeat myself from last issue.



Takeoff

So how do birds control their flight? They have multiple mechanisms; from turning their head, twisting their body, changing the shape of their wings, to spreading tail feathers and pointing them in different directions. One study of hummingbirds I saw even pointed to shifting of their center of gravity. That is a tremendous amount of design of feedback and control mechanisms that enables these creatures to perform these feats of flight so effortlessly. For example, just think about it next time you see a flock of birds fly in and out of trees with nary a collision with branches or each other.

Not only is there an intense amount of design involved in how each creature controls their

flight, they also need to navigate. Man is still just beginning to understand how the animal kingdom can navigate, especially the vast distances of both migrating birds and insects. For example, Monarch butterflies winter in Mexico. How can they possibly fly that far and return to the same place year after year? "Scientists have discovered that birds have an accurate sense of direction because of three compasses that track the sun, stars, and magnetic field."¹ The same tools man has used to navigate for centuries, God has designed into birds from the start!

In short, every aspect of creatures that fly shouts out "I was designed!". So the next flying creature you see, even the pesky fly, remember to marvel at God's infinite, awe inspiring design. And also remember Matthew 6:25-33 ("Look at the birds of the air Are you not much more valuable than they?")



Maneuvering Laughing Gulls

Footnotes:

1. <https://answersingenesis.org/animal-behavior/migration/birds-flawless-flight-plan/>
2. All images by Mark Jurkovich

A few videos of birds in flight:

Slow Motion Hummingbirds 9:

<https://www.youtube.com/watch?v=Cly6Y69WOYk>

Slow motion pigeons:

<https://www.youtube.com/watch?v=VSzpM8vEAFA>

Golden eagle:

<https://www.youtube.com/watch?v=aM0JMoGABgk>

Falcon and raven:

<https://www.youtube.com/watch?v=xNYCldtpiW0>