



WHY A SCIENTIST BELIEVES IN A CREATOR • ARTICLE 3

Systems That Must Work from the Start

How the brooding instinct, the bombardier beetle, and the giraffe's circulatory system all defy gradual explanation

By Jeff Bayard • Virginia Christian Alliance • April 2026

The Big Three — What This Article Covers:

1. Some biological systems cannot be built one piece at a time. Remove one part and the whole system fails — or the organism dies.
2. Evolutionists have proposed step-by-step pathways, but every proposed pathway has gaps that honest scientists acknowledge.
3. A Designer who builds complete, integrated systems from the start is not a retreat from science — it is the explanation the evidence demands.

This is the third full-length article in our series “Why a Scientist Believes in a Creator.” In our first article, we explored how cause and effect demands a First Cause. In our second, we examined why the coded information in DNA points to a Designer. Today we ask: what happens when a biological system requires every part to work from the start?

A Bird on a Nest

It is spring. Outside your window — or maybe on your porch, in your gutter, or in the tree beside your driveway — a bird is sitting on a nest of eggs.

She has been there for days. She barely eats. She barely moves. She plucks feathers from her own chest to expose a patch of bare, blood-rich skin called a brood patch, and she presses that warm skin against her eggs to keep them within a narrow range — typically around the upper 90s to just over 100 degrees Fahrenheit — for weeks on end.

If she leaves for too long, the embryos die. Prolonged cooling below the mid-90s often halts or fatally disrupts development. If she fails to turn the eggs regularly, the membranes stick to the shell and the chicks never hatch.

She does not know any of this. She has never read a manual. She has never watched another bird do it. Something inside her — something she did not choose and cannot explain — drives her to do exactly what must be done, at exactly the right time, in exactly the right way, or her offspring will not survive.

Every spring, billions of birds repeat this performance across the planet. And here is the question this article will answer: *How did the first bird know what to do?* It is the next reason why a scientist believes in a Creator — and it may be the one you can see from your own backyard.

What We All Recognize

Before we examine theories, let us agree on what everyone already recognizes when they see it.

When you encounter a system where every part depends on every other part — where removing any single component causes the whole system to fail — you instinctively recognize design. A mousetrap needs a platform, a spring, a hammer, a catch, and a bar. Remove any one piece and you do not have a worse mousetrap. You have no mousetrap at all.

You see this principle everywhere. A car engine without spark plugs does not run poorly — it does not run. A combination lock missing one tumbler does not open slowly — it does not open. An arch missing its keystone does not sag — it collapses.

This is not a religious observation. It is an engineering observation. When you see a system that must be complete to function, you conclude — without hesitation — that someone designed it that way.

Biologist Michael Behe gave this concept a name: irreducible complexity. A system is irreducibly complex when it is composed of several well-matched, interacting parts that contribute to the basic function, and where the removal of any one part causes the system to effectively cease functioning.

If a system must have all its parts in place to work at all, it cannot be built gradually, one piece at a time, by a process that only preserves things that already work.

Hold that principle firmly. Now let us look at three biological systems that fit the description — starting with the bird outside your window.

The Best Case for Gradual Development

Intellectual honesty requires that we present the strongest version of the opposing view before examining it. Evolutionists have serious proposals for how these systems could have developed gradually, and they deserve a fair hearing.

Brooding instinct

Evolutionary biologists argue that incubation behavior did not appear all at once. They point to a spectrum of egg-care behaviors across modern reptiles and birds — from sea turtles that bury eggs and leave, to crocodylians that guard nests, to megapode birds that use decomposing vegetation for heat, to full-contact brooders.

They propose that the hormonal system driving broodiness — particularly the hormone prolactin — was gradually co-opted from other functions and refined by natural selection over millions of years. Prolactin already regulates molt, metabolism, and other parental behaviors. Selection could tweak thresholds, timing, and target tissues to gradually yield feather loss, increased skin vascularity, and broody behavior.

Each small improvement in parental care, they argue, slightly increased offspring survival — enough for natural selection to favor the trait long before a “perfect” brood patch existed.

The bombardier beetle

Biologists note that many beetle species produce defensive chemicals, including quinones stored in the exoskeleton. They propose that the bombardier beetle’s explosive spray evolved in stages from simpler chemical defenses — from passive secretion, to directed oozing, to the pressurized, superheated blast we see today.

The most primitive bombardier species, *Metrius contractus*, secretes a bubbling froth rather than a directed spray. Researchers cite this as a living example of an intermediate stage. They also point to exaptation — the repurposing of chemicals originally used in shell production as a plausible pathway.

Thomas Eisner and Daniel Aneshansley have published detailed models proposing sequential steps: quinone-based defenses concentrated in glands, hydrogen peroxide added to increase toxicity and heat, thickened walls and partial valving evolving gradually, with pulsed discharge and precise aiming as late optimizations of a system that was already somewhat effective.

The giraffe’s circulatory system

Evolutionists acknowledge the remarkable engineering of the giraffe’s blood pressure regulation but argue that the system evolved incrementally as neck length gradually increased. All mammals already have high-pressure arterial systems, baroreceptors, autonomic reflexes, and collapsible veins with valves. The giraffe, they argue, simply “turns the knobs” further to accommodate a long neck.

They point to the recurrent laryngeal nerve — which travels from the brain down to the heart and back up to the larynx, a fifteen-foot detour in a giraffe — as evidence of evolutionary tinkering rather than intentional design. The nerve’s route, they argue, is a developmental constraint inherited from fish-like ancestors, not a designed pathway.

These are not trivial arguments. They come from serious researchers working with real data. They deserve respect before they are examined.

Where the Explanations Break Down

Now let us press on each of these — not with mockery, but with the same cause-and-effect reasoning we have applied throughout this series.

The brooding instinct problem

The evolutionary story sounds plausible when told in broad strokes. But look at the details.

The brood patch alone requires a coordinated set of changes: hormonal signals that trigger feather loss on the chest, increased blood vessel growth in the exposed skin, temperature-sensing nerves that regulate how much heat the bird applies, and behavioral programming that keeps the bird on the nest despite hunger and vulnerability to predators.

These systems must work together. A bird that develops a brood patch but lacks the instinct to sit on eggs gains nothing. A bird that sits on eggs but cannot regulate temperature kills the embryos. A bird with the instinct and the patch but without the drive to turn the eggs produces chicks that stick to the shell and die.

The evolutionary model proposes that each of these components was added independently, one at a time, by random mutation and natural selection. But a partly formed brooding system drastically reduces hatching success. It does not give you “half as many” healthy chicks. It tends toward repeated failure and extinction if not quickly completed.

The bombardier beetle problem

The graduated defense story has a surface logic — simpler defenses came first, more complex ones followed. But the explosive spray mechanism requires several components working simultaneously: two separate chemical reservoirs containing hydrogen peroxide and hydroquinone, a reinforced reaction chamber lined with catalytic enzymes, a valve system that controls when the chemicals mix, and a directional nozzle that can aim the 212-degree spray with precision.

The reaction itself must be controlled — too much mixing and the beetle destroys its own internal organs. Too little and the defense fails.

Biologists are correct that related beetles produce quinones. But producing a chemical is not the same as building a precision delivery system for that chemical. Evolutionary models propose stepwise pathways, but each step must be not only survivable but advantageous — and the burden is on those models to show truly plausible, testable intermediates.

Bill Nowers captured this perfectly in his Creation Bullet on the bombardier beetle: the beetle scientists in the fable did not exist, and neither did the gradual process that supposedly built this system by accident.

The giraffe circulatory problem

The evolutionary community often cites the giraffe’s recurrent laryngeal nerve as evidence of poor design. But this argument cuts both ways. The giraffe’s blood pressure system — the actual life-or-death engineering — is astonishingly well designed.

A giraffe’s heart generates blood pressure roughly twice that of other large mammals — around 190 to 220 mmHg at the heart, compared to 90 to 100 in most large mammals — to push blood up that long neck to the brain.

But when the giraffe bends to drink, that same pressure would endanger blood vessels in the brain without a sophisticated set of countermeasures: reinforced artery walls in the neck, a network of small blood vessels at the base of the brain called the carotid rete that likely helps buffer and distribute pressure changes, valves and pooling behavior in the jugular veins that manage backflow, and pressure-sensing baroreceptors that adjust heart output in real time.

These mechanisms overlap and reinforce each other. Severely weakening one makes safe drinking far more dangerous. Removing several would likely be lethal. A giraffe with a longer neck but without the integrated pressure regulation system faces catastrophic risk every time it bends for water.

As for the recurrent laryngeal nerve — creation scientists at Answers in Genesis have documented that the nerve’s “detour” actually serves multiple functions along its route, providing branches to the heart, trachea, and esophagus. What appears wasteful on a wiring diagram turns out to be purposeful in a living organism.

Why a Scientist Believes in a Creator: The Designer Who Builds Complete Systems

If these systems must be substantially complete to function — and the evidence strongly suggests they must — then what kind of cause is sufficient to explain them?

Not a blind process working one random mutation at a time. A blind process has no foresight. It cannot plan for a future function. It cannot assemble coordinated parts that serve no purpose individually but work brilliantly together. Natural selection can only preserve what already works. It cannot build toward what might work someday.

The sufficient cause must be an intelligent Designer — one who can envision a complete system, plan the integration of its parts, and implement the whole package at once.

This is not “God of the gaps.” This is reasoning from what we know about how integrated systems come into existence. In all of human experience, systems of this kind — where every part depends on every other part — come from minds that plan ahead.

This is why a scientist believes in a Creator. Not because science has failed to explain these systems, but because the deeper science investigates them, the more they reveal the hallmarks of intentional, integrated design.

The God Who Builds from the Beginning

Scripture describes a Creator who does not work by trial and error. He speaks, and complete systems come into existence.

Consider how Genesis describes the creation of living things: “*And God said, ‘Let the land produce living creatures according to their kinds: the livestock, the creatures that move along the ground, and the wild animals, each according to its kind.’ And it was so*” (Genesis 1:24). Not gradually. Not over millions of years of incremental adjustment. God spoke, and fully formed creatures — each according to its kind, each equipped with everything needed for survival — appeared.

The phrase “according to their kinds” is crucial. It means each creature was created as a complete, functioning package — not as a work in progress waiting for future mutations to supply missing parts. The bird was created with the brooding instinct, the brood patch, the temperature regulation, and the egg-turning behavior already integrated. The beetle was created with its chemical defense fully operational. The giraffe was created with its extraordinary circulatory system intact from the first heartbeat.

The prophet Isaiah captures the scope of this creative intelligence: “*For my thoughts are not your thoughts, neither are your ways my ways,*” declares the Lord. “*As the heavens are higher than the earth, so are my ways higher than your ways and my thoughts than your thoughts*” (Isaiah 55:8–9). The engineering we see in the natural world is not the product of a mind like ours, fumbling toward solutions through trial and error. It is the product of a mind infinitely beyond ours — one that conceives and executes complete systems in a single creative act.

Paul reminds us that this Creator’s handiwork is visible to everyone: “*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” (Romans 1:20). The bird on the nest outside your window is not just a charming sign of spring. It is evidence — visible, undeniable, and beautiful — of a Designer who builds complete systems from the very beginning.

The Virginia Christian Alliance holds firmly to the biblical account of [a six-day creation by the God who spoke all things into existence](#). The irreducible complexity we see in the natural world — from the smallest beetle to the tallest giraffe — is not a puzzle for the Creator. It is His signature.

And this Creator is not merely an engineer. He is the God who made you in His image, who knows you by name, and who entered His creation in the person of Jesus Christ to offer you redemption. The same mind that designed the brood patch, the bombardier beetle’s chemical cannon, and the giraffe’s pressure-regulating network is the mind that designed a plan to rescue you. The Creator is also the Redeemer — and He is calling.

What Will You Do With This?

Dear Christian: Look outside your window this spring. Watch the birds nesting. Consider what you are actually seeing — a system so precisely integrated that removing any single piece means death for the next generation.

Then ask yourself: does this look like the product of billions of random accidents? Or does it look like the work of a Designer who planned it all from the beginning?

You do not need a degree in ornithology to see what is plainly in front of you. Share what you see. Start a conversation. Ask the skeptic in your life one simple question: *How did the first bird know what to do?* Then let the evidence do the work.

No argument on a page can change a heart — but the God who designed the brooding instinct can. Trust Him.

Dear skeptic, dear seeker: The systems described in this article are real. The bombardier beetle’s chemical cannon is real. The giraffe’s pressure-regulating network is real. The bird sitting on her eggs outside your window right now is real.

These are not arguments from ignorance. They are observations from knowledge — the deeper we look, the more integrated design we find. If you have followed the logic of this series from cause and effect, to DNA, to these irreducibly complex systems, you know where the evidence points.

Follow it honestly. And if it leads you to a Creator — do not be afraid. *“Come to me, all you who are weary and burdened, and I will give you rest” (Matthew 11:28).* The Designer of all these systems designed you too. And He is not far from you.

The battle is real, but so is our God. *“The heavens declare the glory of God; the skies proclaim the work of his hands” (Psalm 19:1).* And so does every bird on every nest, every beetle with its remarkable defense, and every giraffe bending its long neck to drink. This is why a scientist believes in a Creator — and why the evidence of spring should give every honest thinker pause. We stand firm, speak truth, and trust the One who holds all things in His hands.

For Further Study

Behe, Michael J. Darwin’s Black Box: The Biochemical Challenge to Evolution. Free Press, 1996.

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Previous in this series:

- Why a Scientist Believes in a Creator: The Question Everything Else Depends On — vachristian.org/why-a-scientist-believes-in-a-creator-first-cause/
- Why a Scientist Believes in a Creator: The Language Written in Every Cell — vachristian.org/why-a-scientist-believes-in-a-creator-dna-code-of-life/

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