Instinctive Behaviors of Kernel E. Howard Callahan



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About the Author: E. Howard Callahan is a retired chemical engineer with a master's degree in theology. As a chemical engineer, he spent years working in the fields of chemistry and biology. As a Christian, he has spent over 60 years studying the Bible and how it applies so well to our everyday lives. He continued learning physics and chemistry, including organic and inorganic, as he got his bachelor's degree in chemical engineering at Georgia Tech. Howard's engineering experience has included research and development (R&D) work that revealed to him how God made the world. Howard ran the chemistry lab for Dr. O.A. Battista, who was an expert in polymer chemistry,

especially in the two polymers that make up probably 80 percent of all living things: cellulose and collagen. Then Howard did R&D work on aloe vera, learning of its many uses in humans and extracting a drug from it. Next was R&D for an anticancer drug-delivery system. Lastly, Howard helped develop and manufacture an artificial scab for very large wounds.





FOREWORD

INSTINCTS are a fascinating subject! We instinctively breathe and don't want to fall. When we look at the world, we see that many animals have instincts too.

What are instincts? How has God designed these features and passed them along to subsequent generations? What are some fascinating instincts that have been studied by researchers across the world?

This book sets out to be a detailed resource that looks at instincts like no other before it. But the uniqueness of this book is that it stands on God and His Word as the authority by which we look at the nature of instincts.

It's God's World—albeit suffering under the curse from sin in Genesis 3—but we can still see amazing remnants of God's original creation and aspects that built instinctive features animals now have. Join Howard Callahan as he takes you on a journey of discovery into the realm of instincts and the Bible.

Bodie Hodge Speaker, writer, and researcher for Answers in Genesis

> "Even the stork in the heavens //// Knows her appointed times;
> And the turtledove, the swift, and the swallow
> Observe the time of their coming.
> But My people do not know the judgment of the LORD."

Jeremiah 8:7

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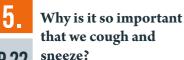


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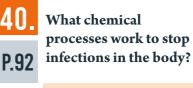


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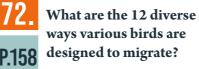




journey thousands of miles every year?

5,000 species of birds

How do more than





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INTRODUCTION

The Elephant in the Room: The Unconscious Mind

People discussing a problem will occasionally avoid, on purpose or accidentally, an important part of the problem. When the ignored factor is really obvious

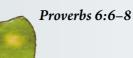
and important for understanding or solving the problem, it is said that they are ignoring "the elephant in the room." For the problem of how did we get here, instincts are the elephant in the room.

God has made a proof of His being the Designer of life so obvious that humans often don't see it anymore. We see instincts at work all the time. We understand that we have little to no control over them. So what do we do? We say that they are controlled by our "unconscious mind" — and stop thinking about them.

In the Bible, Paul says, "Since the creation of the world His invisible attributes are clearly seen, being understood by the things that are made, even His eternal power and Godhead, so that they are without excuse, because, although they knew God, they did not glorify Him as God, nor were thankful, but became futile in their thoughts, and their foolish hearts were darkened. Professing to be wise, they became fools..." (Romans 1:20-22).

Where is this "unconscious mind" that controls so much of our lives and even keeps us alive? God has placed these "instructions" in several places in our bodies. Most are in the bottom half of our brain. The top half, the cerebrum, could be called our "conscious mind." Below it is the cerebellum and the brain stem, which

Go to the ant, you sluggard! Consider her ways and be wise, Which, having no captain, Overseer or ruler, Provides her supplies in the summer, And gathers her food in the harvest.



biologists divide into several pieces, such as the medulla and pons. The "conscious mind" has little control over them, but they are "essential to survival." Just the medulla regulates many bodily activities and produces important reflexes.¹ But "instructions" are also in

other places, such as the vagus nerve and even in the cerebrum. This book will look at the

amazing "unconscious mind" and the "simple" instincts it controls. As it does, thank God and honor Him for His astounding abilities.

What Is an Instinct?

Instinct is a word used to describe a behavior that is built into the human, animal, or plant. One dictionary says an instinct is "an inborn pattern of behavior that is characteristic of a species…"² Almost always, it is a behavior necessary for the health, often the survival, of the creature. As you will see from this book, without instincts no life would exist.

Instincts are a major problem for evolution. The main reason is that each instinct is unquestionably a very complex set of instructions for a specific action in a specific creature, and it is hard to even imagine how any of these instructions could be made without a designer. Note this summary by an evolutionist: "Everyone in the world holds an inherent set of instinctive behaviors. Some of the behaviors include a collection of reflexes. Scientists continue to examine the purpose of these instincts and develop hypotheses on their function. Many of the instincts remain an evolutionary mystery"³ (emphasis added). Most likely, the above emphasized phrase should be "almost all of the instincts remain an evolutionary mystery!"

The easiest way to see the problem for evolution is to imagine trying to program a robot to do all the steps necessary to duplicate an instinctive behavior. Each instinct is very complex, yet evolution claims that dumb luck (evolutionists will say "time, pressure, and chance, but no Intelligence") created every one of the thousands (possibly millions) of them! It is a ridiculous belief, yet the only way to explain it is if you say there is no God.

The goal of this book is not to "prove" there is a God, though creation itself does clearly testify about the Creator (Romans 1:20). Nor is it to say that evolutionists have not imagined plausible explanations for some of the almost innumerable instincts. The goal is to amaze you with the fact that almost nothing in life is really "simple," and the most logical, rational explanation is that God created everything.

Albert Einstein, in a 1952 letter, described the universe in an interesting way:

I am not an Atheist... We are in the position of a little child, entering a huge library whose walls are covered to the ceiling with books in many different tongues. The child knows that someone must have written those books. It does not know who or how. It does not understand the languages in which they are written. The child notes a definite plan in the arrangement of the books, a mysterious order, which it does not comprehend, but only dimly suspects. That, it seems to me, is the attitude of the human mind, even the greatest and most cultured, toward God. We see a universe marvelously arranged, obeying certain laws, but we understand the laws only dimly.4

This book will show you just a part of that huge library of laws, the instincts.

The Nobel Prize-winning Austrian zoologist Konrad Lorenz being followed by a group of ducklings. Lorenz studied medicine in Vienna before changing to zoology. His first discovery as a scientist occurred when he was given a oneday-old duckling that followed him around as if he were its mother Together with the Dutch zoologist Niko Tinbergen, he founded a branch of animal behavior called ethology, based on observing the instinctive behavior of animals in the wild. They shared the 1973 Nobel Prize for physiology or medicine with Karl von Frisch.

What Do Evolutionists Say about Instincts?

Some evolutionists are presently implying that instincts are only learned. When you study what they have actually determined, you see that they found that some instincts (complex sets of instructions) are modified by experiences of the creature. The fact that some of the millions of instinctual actions are modified by "learning" gives the evolutionist hope he can believe there is no God. So, these few examples are presented to students with words that suggest further study will show less and less of the programming was actually built-in at birth.

> DNA plays a critical role in these processes, but does not by itself create traits. Accordingly, instincts are not preprogrammed, hardwired, or genetically determined; rather, they emerge each generation through a complex cascade of physical and biological influences.⁵ (emphasis added to words of Mark S. Blumberg)

Notice how Blumberg admits that DNA is "critical" but not alone in creating the instincts he studied. Then notice how he refers to the **final version** of these instincts, so that he can say these final versions are not "preprogrammed, hardwired, or genetically determined" even though the **foundation** of even these instincts he studied are "preprogrammed, hardwired, and genetically determined." He even, indirectly, admits that these instincts which are often vital for survival are correctly created by "a complex cascade of physical and biological influences" for almost every one of the creatures of that species!

As you read through this book, notice that most of the instincts discussed could not have been modified by "a complex cascade" of events in the environment.

Another scientist has a more accurate summary of where true science is regarding instincts: "Although no one today seriously doubts that behavior is influenced in some way by **genetic constitution**, a general understanding of the mechanisms by which genes exert their influence is still faraway"⁶ (emphasis added). Note that "genetic constitution" means at least some of the programming is built-in at birth. Another evolutionist admits they are **"genetically encoded.** Innate behaviors **exist because they are necessary in some way for survival** and have **evolved through the process of natural selection**⁷⁷ (emphasis added). Notice two ideas typically held by evolutionists. One, these very necessary behaviors exist because they are necessary. As you listen to nature programs, they will often say that some animal needed something, so it got it! They never say how they got it. They imply the animal DECIDED it needed it. This is supposedly answered by the idea that it evolved through natural selection.

Think about it. The word "selection" means you are choosing something from a group of things. The only group possible would be mutations of genes. As you read this book, you'll find no simple set of instructions (instincts). Evolutionists must **BELIEVE** that these "necessary in some way for survival" instructions built up over many generations, being useless or close to useless for all of those generations. I don't have that much faith!



Here are some telling quotes from scientists about instincts with my emphasis added.

"It's pretty clear that physical traits like the color of our eyes are inherited, but behavior is more complicated." Shook says, "It's a **complex interaction between genetics and environment.**"⁸

"Every organism is born with different biological traits and tendencies in order **to help them survive.** These aren't learned or experienced behaviors, rather patterns of behavior that occur naturally and are goal-directed. These patterns of behavior are referred to as instincts, and the theory suggests that **instincts drive all behaviors.**"9

"Animals react to things without thinking about it and the reaction they had was **completely functional the first time** they performed it."¹⁰

"Innate behaviors generally involve basic life functions, so it's important that they be performed correctly."¹¹

"Instinct is a powerful force in the animal world. It dictates the behaviors necessary for survival, especially in species that don't get much guidance from their parents. These behaviors are programmed into an animal at a genetic level. An innate behavior is inheritable, passing from generation to generation through genes. It is also intrinsic, meaning that even an animal raised in isolation will perform the behavior, and stereotypic, meaning that it is **done the same** way every time. Innate behaviors are also inflexible and are not modified by experience. Finally, they are consummate, which means that the behavior is fully developed from the animal's birth."12

Which Instincts Will Be Investigated

Since God did not put any labels on creatures that would specify what were "instincts," it is up to humans to specify what is or is not an instinct. Because humans are not infallible, this book will use a very simple definition of instinct: ANY COMPLEX SET OF INSTRUCTIONS IN MOST CREATURES OF A SPECIES THAT WAS NOT LEARNED AND IS NOT THE RESULT OF CONSCIOUS EFFORT.

Due to the huge number of instincts, this book will not attempt to list all the different kinds, much less all the individual instincts. Instead, it will present some that are necessary for survival or growth or protection in humans. Crucial instincts are also in animals, so a few of theirs will also be presented.

Because many of the instincts God made are valuable for several purposes, it is difficult to categorize them. This book will group instincts, while recognizing some of them could belong in several groups. In fact, as in modern computers there are sets of programming code that are used for more than one purpose, so also in living creatures these instincts are often used for more than one purpose. This has caused this book to almost randomly shift between the singular "instinct" and the plural "instincts" when describing some marvelous behavior — we don't really know how many instincts are involved in a behavior!

This book will generally present instincts that are

- 1 necessary for life,
- 9 helpful for growth,
- 3 necessary for protection.

Let's begin examining the wealth of amazing instincts all around and in us. You should come away with an awe of the creative, perfectionist God who loves us so much that He did all of this for us. In talking about the human body, the psalmist ("poet") says it nicely: "I am fearfully and wonderfully made" (Psalm 139:14). "Science cannot solve the ultimate mystery of nature. And that is because, in the last analysis, we ourselves are part of the mystery that we are trying to solve."

- Max Planck

SECTION 1: \lessapprox



HUMAN

What is so important about your heart's pumping instinct?

> Human **Instincts Necessary for** Life God, in His wisdom, has made human babies incapable of many actions that they will later learn to perform easily, like walking and talking. However, God made babies capable of doing many things necessary for survival. Let's examine the things seen almost every day and probably not appreciated. In His great wisdom, God formed humankind, bestowing on us the gifts of instincts, empowering people with an innate wisdom and

> > ability to survive and to thrive in this world.

ATRIAL MUSCULATURE

VENTRICULAR MUSCULATURE

Your heart is essentially a four-chambered muscle, working to pump blood all through the body. The Bible rightly says that *"the life of all flesh is its blood"* (*Leviticus 17:14*). Within a very short time, you would be dead if your heart stopped sending your blood throughout your body by pumping it. However, you would also be dead if your heart didn't beat at the right speed and with a good rhythm.

God has put a complex pumping instinct (set of instructions) inside the medulla. It is at work for you almost from the time of conception in the womb. It keeps working continually until almost the time of your death.

You have many muscles in your body, but almost none of them are moving continually or at a steady rate. Many of the muscles in your digestive system are actually pumps, but they move only when needed. God designed your heart to work, without stopping, for about 100 years! Nothing human scientists/engineers have ever made comes anywhere near this durability.

MEDULLA

Неастну Рнутнм

LEFT Atrium

l eft

PULMONARY

ARTERIES

BLOOD FLOW TO HEAD

AND ARMS

HEART

VENTRICLE

SUPERIOR

VENA

CAVA

NOT HEALTHY RHYTHM

The errors in heart rate and rhythm are usually caused by the person not being wise in his lifestyle. Some of the causes can be worry (the opposite of faith in God; Philippians 4:6–7), smoking, drugs, caffeine, alcohol, and not enough sleep.¹⁴ Fortunately, God made us able to survive most of our wrong behavior.

PULMONARY

Δοκτα

LUNG

BLOOD FLOW TO DIGESTIVE SYSTEM AND LOWER LIMBS

VEINS

You know that your heart rate changes according to what is happening to you: running, sleeping, being excited, etc. That is all controlled by your instincts. That programming knows the best pump speed for each situation. That is not simple.

RIGHT

ATRIUM

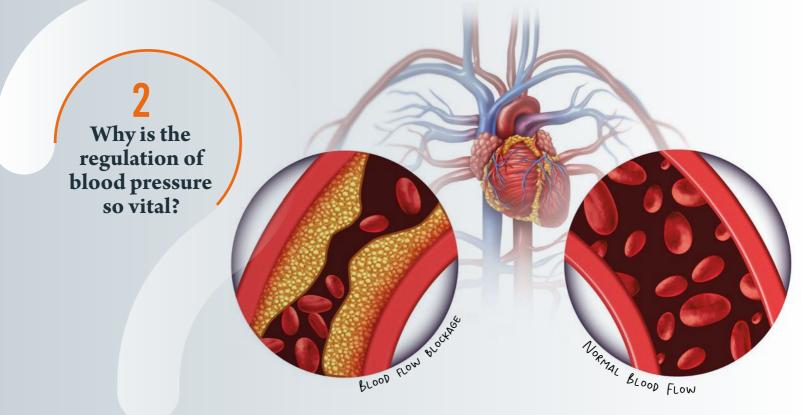
The best pump speed depends on many things, such as the viscosity of your blood (how easily it will flow), the size of the blood vessels attached to the heart, the distance the blood must flow, the resistance to flow caused by the surfaces of the blood vessels, etc. Your instincts know this! For most humans a rate of 60–100 beats per minute is best.¹³

WHAT IS A "BEAT"? This also is not simple. Human hearts are really two pumps in one, each pump consisting of two main muscles. One pumps blood full of carbon dioxide from all over your body to the lungs. The other pumps oxygenated blood from the lungs out to all of your body. But it's one complex system pushing all of your blood continually. One "beat" is one complete cycle of the two pumps pumping.

The timing of the four main muscles needs to be correct to be efficient. If the timing (rhythm) gets off, then the blood flow will decrease. God made us able to survive with a relatively wide range of errors in timing, but large errors can cause various problems and even death.

LUNG INFERIOR VENA CAVA

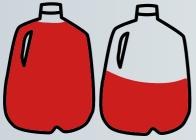
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One method that God's design uses to control the heart rate is blood pressure. When a pump like the heart is pumping, the liquid (blood) is pushed against the piping and other equipment downstream. When the piping can burst from too much pressure (like a blood vessel might), the pumping system needs sensors and instructions for what to do to prevent over-pressure (high blood pressure).

In a system like the human body, the blood circulates continually, so it needs to come back to the heart. If the returning blood has been slowed down for some reason, the heart (pump) will be forced to work harder to produce sufficient flow out of it. This happens in human bodies due to problems like hardening of the arteries and can cause many problems, including death.

How did God's design manage these potential problems? He built in a very complex set of instructions that will be described here in a much-simplified way.



Your heart pumps about 11/2 gallons of blood every minute. Over the course of a day, that adds up to over 2000 gallons.

Biologists know that the main source of the instructions (the "INSTINCT") for regulation of blood pressure and flow is the medulla oblongata in the brainstem.¹⁵ There is a cluster of neurons in the medulla that respond to sensors spread throughout the body that monitor "changes in blood pressure as well as blood concentrations of oxygen, carbon dioxide, and other

What do those blood pressure numbers 120/80 really mean? factors such as pH."¹⁶As you can see, the control is not simply blood pressure. The system is amazing.

Scientists have developed quick ways to check blood pressure and oxygen concentration, but even a

baby's brain is doing that, and several other checks, to keep continuous control of his heart rate.

Doctors will measure our **BLOOD PRESSURE** with a device that detects the highest pressure in our arteries (called systolic; when the heart muscles are contracting, sending the blood out to the body) and the lowest pressure (called diastolic; when the heart muscles are expanding as they relax). The "normal" numbers are 120/80; they vary with what the body is doing, but they also vary with the health of the body. That is why doctors almost always want to see our blood pressure numbers.¹⁷ One of the sensors spread around the body that is used by the neurons in the medulla to control blood pressure and flow is called a baroreceptor.

"Baroreceptors are **specialized** stretch receptors located within thin areas of blood vessels and heart chambers that respond to the degree of stretch caused by the presence of blood."¹⁸ Emphasis was added to this quote to show that a scientist saw the DESIGN without giving even the possibility that there was a Designer.

These baroreceptors are strategically located in your body. They are where a good Engineer would place them. They are where the blood leaves the heart to go to the body. They are where the blood is going to that most important part, the brain. They are in the vessels bringing the blood back from the upper body and from the lower body. They are also where the blood reenters the heart.



AN ADULT HEART IS ABOUT THE SIZE OF 2 HANDS CLASPED TOGETHER

A CHILD,S HEART IS ABOUT THE SIZE OF A FIST.



VAGUS

Remember that these are just the sensors, and only for pressure. The medulla's instructions use these along with several other sensors to determine whether to change the heart rate, or dilate (make larger for less resistance to SENT TO THE flow) certain blood vessels,

SENT TO THE MEDULLA OF THE BRAIN STEM

Glossopharyngeal Nerve

1. BARORECEPTORS DETECT CHANGES IN ARTERIAL PRESSURE

INGEAL This instinct is such a sophisticated controller
 that it takes into account
 GES not only blood pressure, but many other factors and body mechanisms. As our
 conscious mind does good and

or constrict (shrink for

more resistance to flow)

certain blood vessels.

bad things to our bodies, this instinct adjusts. It adjusts for things like "diet, exercise, disease, drugs or alcohol, stress, and obesity." It even adjusts as the limbic system (regulation of thirst,

hunger, mood, etc. by the thalamus and hypothalamus in the brain) reacts physically to "psychological stimuli, chemoreceptor reflexes, generalized sympathetic stimulation, and parasympathetic stimulation."¹⁹ God makes this instinct's complicated system work even if your conscious mind has no idea it's helping you.



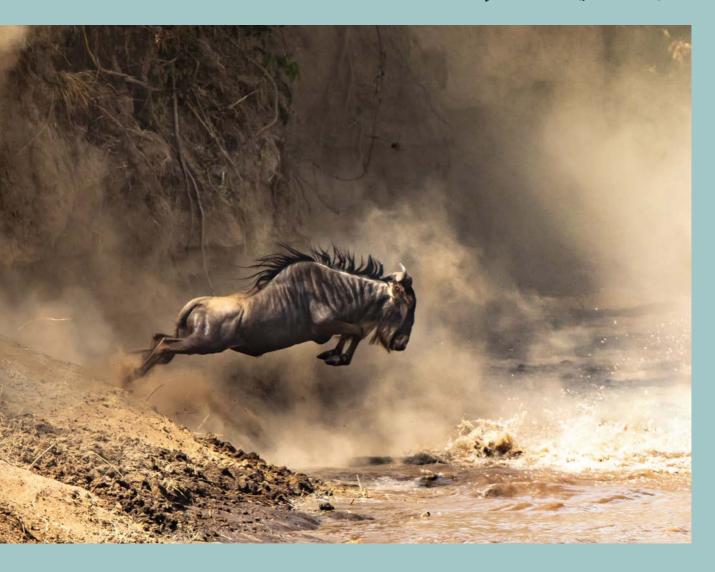
SYSTOLIC BLOOD PRESSURE



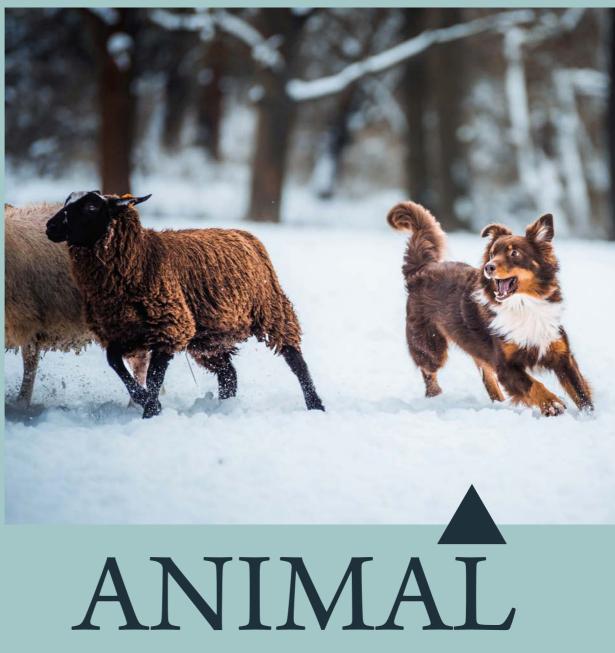
DIASTOLIC BLOOD PRESSURE

baroreceptor Reflex

But now ask the beasts, and they will teach you; And the birds of the air, and they will tell you; Or speak to the earth, and it will teach you; And the fish of the sea will explain to you. Who among all these does not know That the hand of the LORD has done this, In whose hand is the life of every living thing, And the breath of all mankind? (Job 12:7–10)



SECTION 2:



40 How do creatures know what atmosphere to look for and what to avoid?

As Genesis

chapter 1 says, God created all of the animals and then created humans to "have dominion" over them. He wants humans to not only live with the animals, but to control and help them to live healthy lives.

Land animals need air to breathe, or they die. Sea creatures need water to breathe, or they die. However, almost all of the sea creatures would die if they were in rivers. This is because they need the large amount of salt that is in sea water. Almost all freshwater creatures would die if they were in the ocean, because of the large amount of salt.

Apparently, God wanted creatures to be in almost every place on the surface of this planet. As biologists have searched for living creatures, they have found life almost everywhere. News articles often report on the surprise to a scientist of the discovery of life in a very extreme environment. To find life in an extreme environment means that that kind of creature has the complex set of instincts (programming) necessary to survive and reproduce in such an environment. One of the ways God has done His part in helping humans live a healthy life is by giving us the many instincts we have; some of which we just examined. He has done the same thing with the animals. He has taken the huge variety of animals and created many instincts in all of them. As we just saw in humans, most of these instincts in animals are vital for their survival. As with the human instincts, you may have known of some of these behaviors but never realized how complicated and important they are. So, let's examine just a few of the animal instincts.

Every creature must know what atmosphere to look for and what to avoid. Then it must know how to "breathe" that atmosphere. Each creature has a specific way it gets what its body needs from its atmosphere. It also will be able to detect whether the atmosphere is acceptable. If it is not acceptable, the creature will have programming to get its body into the correct atmosphere. Amazingly, God has put this crucial information into every

creature. Let's look at some examples.

ROCKSKIPPER FISH - A SPECIES OF AMPHIBIOUS FISH THAT CAN WALK ON LAND BY HOLDING WATER IN IT'S MOUTH TO BREATHE When a fish accidentally gets out of the water, its instincts begin to work. Fish are not designed to breathe air. In fact, the gills that get oxygen from the water that passes through them will collapse because air is less dense than water and won't support the very flexible gills. So even though air has oxygen, the surface of the collapsed gills is not exposed to it. The fish will quickly suffocate.²⁵⁷

FISH FLOP TO GET the BACK TO WATER its

How

WATER FLOW

FISH BREATHE

The instinct uses the fish's only means of movement to try to get back into the water. It will keep rapidly bending its body as if it were swimming. Usually, this is successful in moving the fish back into water.²⁵⁸

GILL ARCH

BLOOD FLOW

GILL FILAMENTS

Whales and Dolphins Breathe Air Yet Live Underwater: Whales and dolphins are mammals who live in the ocean. So they need to breathe air even though they live most of their lives under water. God has designed them so that the highest point on their backs is where they breathe in air. These BLOWHOLES are closed by a flap of skin and are always closed except while breathing.

The instincts controlling breathing have the blow holes open only when air contacts them. That is why whales and dolphins almost never inhale water. They can still drown by not being able to get to the surface of the water fast enough. This can happen, for example, when a dolphin is trapped in a fishing net. When a baby whale is born, under water, the mother whale will get under it and push it up to the surface of the water. The instinct in the baby will then make it breathe in the air.

Because whales and dolphins need to spend much time under water, God has made their bodies better than those of humans for holding their breath. For instance, their lungs are proportionally bigger than those of humans, so each breath moves more air. Their blood cells can hold more oxygen. They have a higher tolerance for carbon dioxide in the blood. When they are diving, the instinct will have the blood, and precious oxygen, only go to the "parts of the body that need oxygen — the heart, the brain and the swimming muscles. Digestion and any other processes have to wait"²⁵⁹ (emphasis added).

> THE TRACHEA DIVIDES INTO TWO BRONCHI, ONE FOR EACH LUNG.

AIR MOVING IN AND OUT OF THE ANIMAL PASSES THROUGH THE BLOWHOLE. THE MOUTH IS NOT CONNECTED TO THE TRACHEA

HOW DOLPHINS BREATHE

THE HEART PUMPS BLOOD TO THE LUNGS, AND THEN AROUND THE REST OF THE BODY. THE LUNGS ARE THE SITE OF GAS EXCHANGE. OXYGEN MOVES INTO THE BLOOD AND CARBON DIOXIDE MOVES IN THE OPPOSITE DIRECTION.

Why must every creature have unique instincts for finding and eating its food?

The original plan of God was for all humans and animals to be vegetarians (Genesis 1:29-30). 609 CHAIN

When Adam and Eve disobeyed God's explicit commands, one of the consequences was everything living was now going to eventually die. Another consequence was that life was going to be hard for the humans (Genesis 3:16–19). Apparently, this human disobedience also resulted in animals and plants killing each other and violent "natural" events, because God tells us in the Book of Romans that *the creation itself also will be delivered from the bondage of corruption... For we know that the whole creation groans... even we ourselves groan within ourselves, eagerly waiting for the adoption, the redemption of our body.*" (*Romans* 8:21–23)

Even though man's sin brought suffering, God still directed the world as He willed it. In this way the ecosystem was formed. For example, He took the killing by the animals and plants and made it useful. Essentially always, plants and animals kill only for food and/or protection. The killing for food is what we will now examine.

The thousands of different kinds of creatures on this planet have a wide range of food sources, which together make the earth's ecosystems work beautifully. Almost everything living on the earth's surface can be food for something else; thus, when anything dies there will be some other creature ready to consume the dead body and use it for something else. This is another marvelous aspect of God's creative ability.

Therefore, each creature has its own special diet necessary for survival. Amazingly, physically, each creature has everything it needs to be able to find, catch, and turn its food into energy that keeps it active. However, without the proper instincts it would die! Each creature has special sets of instructions (instincts) for finding, catching, and eating its food.

> ECOSYSTEM (EE-KOH-SIS-TUHM) NOUN: LOCATION WHERE THE RELATIONSHIPS OF ORGANISMS WITH EACH OTHER AND THEIR ENVIRONMENT TAKES PLACE.

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This process of obtaining energy and body building materials (food) is even more complex. First, each creature must have programming (instincts) that lets it know it needs to find food.





As each creature searches for food, it must avoid becoming food for some other creature, so it has a set of specially designed instincts to protect it from other creatures (predators). Also, it must be able to avoid eating incorrect things that could kill it; thus, God added instincts that will detect and reject things that would hurt the creature if taken inside it.

Think about how amazing this all is. Electrical devices like your cell phone or mechanical equipment like an automobile do not know what to do when they are running out of energy. Some very sophisticated equipment will have programming to do a complex process of recharging itself. However, God has made almost every creature able to not only detect needs, but to actively take care of all its needs!

