

CREATOR

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CREATED FOR OBEDIENCE

*For you, O LORD, are the Most High
over all the earth. Psalm 97:9a*

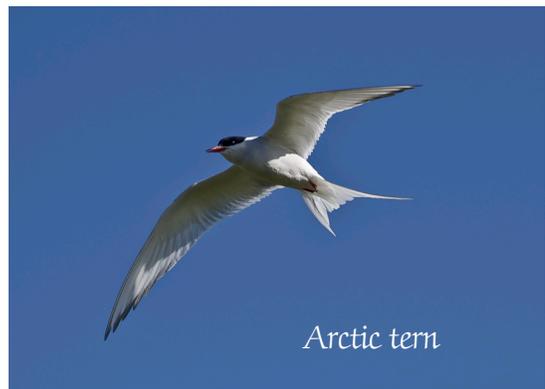
We have come to the wonderful climax of nature's universal obedience to Jesus our Creator. In the two previous issues, we have seen how the cosmos and the weather glorify God. We now examine *the obedience of life*—performed by plants and animals¹ and how Christ's command reaches down to the tiniest of living things. The number of examples is almost endless: the exact timing of egg-laying by birds, the appearance of spring flowers and autumn leaves, the annual emergence of mayflies, the southern migration of monarch butterflies. God also conducts birds, frogs, and insects in song to praise Him at precise times of the year (a type of regulative worship). He directs animals to play, sleep, "speak" (Job 12:7-10), move and rest, live and die (Ecclesiastes 3:2). Beautiful living complexity surrounds us everywhere—all rooted in obedience!

We are limiting ourselves in this issue to five examples of obedience in the living creation. (We must assume that a great library would be needed to cover all the rest.) Join us now as we study this "fear of the Lord" shining throughout nature.

SINGULAR DEDICATION TO CHRIST'S GLORY

The dangers of flying over the ocean are quite real, whether for man or animal. Many of the Lord's creatures venture out over water during annual migrations. But none is more spectacular or miraculous than that of the arctic tern (*Sterna paradisaea*). Before we examine the arctic tern, however, let's consider the perils of ocean flight.

On the fateful afternoon of December 5, 1945, five American torpedo bombers left the Naval Air Base at Ft. Lauderdale on a training exercise. Their mission was to fly east until they spotted a small group of islands off the Florida coast, then turn north to Bermuda, and finally back to



¹ Most of the living things we see belong to either the plant kingdom or the animal kingdom. And King Jesus sovereignly rules over both.

base. Tragically, all five planes—known as Flight 19—disappeared. It is unclear what happened, but apparently the lead plane’s compass malfunctioned. On top of this, the squadron ran into bad weather and heavy rain. Whatever the ultimate cause, fourteen men became hopelessly disoriented and were never heard from again.

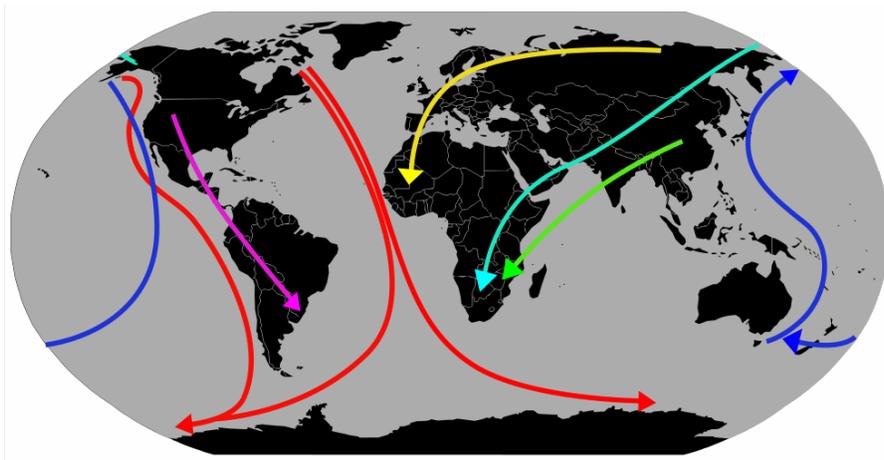
Seventy-five years later, ocean travel remains potentially perilous. Over the past century, 133 different airplanes have gone missing worldwide (a total of 1,777 people have perished). The deadliest incident of maritime aviation, however, was Malaysia Airlines Flight 370, which suddenly disappeared over the Indian Ocean on March 8, 2014. Two hundred and thirty-nine lives were lost and their bodies never recovered.

Of the 10,000 species of birds created by our Lord Jesus, approximately 40 percent migrate each year. Typically, migrating birds nest in one part of the world and fly to

another when the weather becomes cooler. But migration, whether over land or open seas, is often fraught with many dangers. Birds can succumb to harsh weather, windows in high-rise buildings, power lines, TV antennas, wind farms, as well as numerous predators. Why then do so many birds “take the risk?”

Simply stated, God commands them to migrate and they obey (Jeremiah 8:7). Despite the dangers, Jesus sometimes directs birds to fly very long distances—both for their overall benefit and to display His great skills as Creator. Christ’s care for His creation then becomes quite evident. God is not glorified when one of His creatures needlessly dies; Jesus taught us that even lowly sparrows do not perish apart from His Father’s will (Matthew 10:29). God’s lovingkindness directs migrating birds to places where food can be found in greater abundance. *And this is the raison d’être for the arctic tern’s most amazing migration.*

The Longest Bird Migration Routes



- | | | |
|------------------------------|---|-------------------------|
| <i>Oenanthe oenanthe</i> | — | Northern Wheatear |
| <i>Sterna paradisaea</i> | — | Arctic Tern |
| <i>Falco amurensis</i> | — | Amur Falcon |
| <i>Puffinus tenuirostris</i> | — | Short-tailed Shearwater |
| <i>Philomachus pugnax</i> | — | Ruff |
| <i>Buteo swainsoni</i> | — | Swainson's Hawk |



CICADIAN RHYTHMS



Arctic tern
chick

Arctic terns raise their chicks during summertime in the Arctic Circle—thus their name. They then fly south in autumn. Without radar or compass, each year they use their large wings to navigate the ocean skies as far as Antarctica. The wingspan of an arctic tern exceeds two feet (65 cm), yet its body tips the scale at only three or four ounces (86–113 g). This slightness of weight probably helps them stay aloft for long periods, carried along by sea breezes. They are so perfectly created for long-distance flight that they can even sleep and eat while in the air.²

The roundtrip migration routes of the arctic tern stretch some 40,000 or 50,000 miles (70,000 to 90,000 km)—the longest migrations of any animal in the world. And like so many other creatures that migrate (including the monarch butterfly), no one really knows how they safely find their way north and south. Scientists have proposed that terns navigate using the sun or Earth’s magnetic field, but these are wholly unproven. Christ Jesus may have given these birds a type of navigational “sixth sense,” but we also believe His Spirit intimately leads them on their journeys (Job 12:10), so that all glory goes to God.³

² Read more about how animals sleep in *CREATOR* Volume 10 Number 1.

³ No matter how wonderfully constructed by God, every creature must be actively animated, personally directed, and intimately guided by Christ’s Spirit.

God’s rule over how, when, and where His creatures live is clearly advertised by the 17-year cicada. Each year, the music of periodical cicadas vibrantly praises our Lord (Psalm 148:7-13). Many people think that these bugs just make a lot of racket, and they have been known to ruin outdoor weddings. But their sheer numbers also form an immense choir whose worship of our Creator is like none other on Earth.

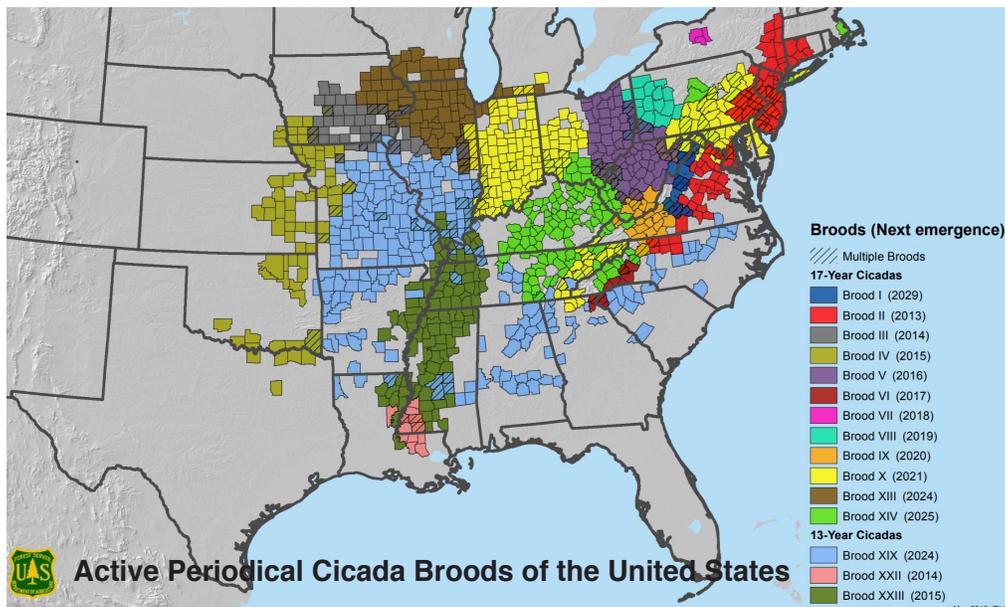
One of the most fascinating aspects of periodical cicadas is the timing of their appearances. Their common name—17- or 13-year cicada—was given to them because they emerge from the ground every 17 or 13 years. Most insects develop from an egg and into a winged adult in a matter of days or weeks. Not so with these little bugs, which take almost as much time to grow into adulthood as a human being does!⁴ They spend 16 years (or 12 years) underground as nymphs, nourishing themselves on the juices of tree roots, and then in the spring of their 17th (or 13th) year, they suddenly emerge.



Emerging
nymph

Another fascinating thing about periodical cicadas is the well-defined locales in which each year’s brood of bugs is found.

⁴ Cicada nymphs undergo five stages of development underground.



There are 15 different regions in the United States where these insects appear and they are found nowhere else on Earth. Some emergences are quite large and diverse, such as Brood XIX (see map above). Other broods—Brood VII for instance—flourish in a relatively small area of the country.



How come periodical cicadas don't all emerge in the same year? Given enough time, we might expect this to happen. Why don't the broods of these cicadas mix and appear at all possible locations in any given year? The simple answer to both questions

is that Christ commands them to come out of the ground precisely when and where He desires, and they obey!

A total of seven species make up the genus *Magicicada* (periodical cicadas)—three in the 17-year group and four in the 13-year group. Mysteriously, each time a 17- or 13-year brood emerges, all of their respective species appear at once. Normally, different species of animals live very distinct lives. Christ coordinates these cicada species, however, to come out of the ground at the same time—something of an oddity in nature.

But why has our Lord established lifespans of thirteen and seventeen years? Why not six or ten? It is not immediately obvious why Jesus selected these time intervals, yet we can rest assured that they showcase His tremendous wisdom and loving care. Seventeen and thirteen are known as *prime numbers*. Like other prime numbers, they cannot be divided by any whole number to produce another whole number. Why is this important? God designed biological systems to allow animals the ability to adjust their peak

population numbers to coincide with peak population numbers to coincide with peak populations of food or prey. Many plants are biennials, which means that they flower every two years. Animals that feed almost exclusively on this type of flower can thus adjust their population size to peak every two years.

But there are no known insect-eating predators that can peak every 13 or 17 years—it’s just too long an interval for any species to survive. Insectivores that have population peaks every two, three, or five years (other prime numbers) are no real threat to a cicada brood. An animal whose population numbers peak every five years would only be a true threat to a 17-year brood every 5×17 or 85 years. By commanding these glorious singers to appear during the prime years 13 or 17, Jesus protects His hemipteran worshipers from annihilation. *He is truly an ever-caring Creator!*

IN THE SHADOW OF A SPIDER

Picture yourself in an immense, pristine mountain forest, hiking with your family. Quite suddenly, a terrible thunderstorm overtakes you, and lightning comes crashing down all around. You spot a cave nearby, so you and your family run as fast as you possibly can into the safety of darkness. The next thing you hear, however, is not thunder, but the growl of a bear. Now, we can only imagine what an unnerving experience this would be.

Christ creates a similar such scenario for a tropical amphibian known as the narrow-mouthed frog. This tiny creature doesn’t share a cave with a bear, however, but with a giant tarantula! Biologists have discovered several cases of spider-frog cohabitation in the south-central United States, Mexico, and South America. Let’s

briefly examine one of these—the symbiotic relationship between the Colombian lesserblack tarantula and the dotted humming frog.

Our Lord Jesus has commanded these two creatures—which are normally predator and prey—to assist each another. The female tarantula digs a burrow in the ground where she lays her eggs and raises her young. The dotted humming frog then moves in with its family, rearing its young in the same burrow.



Normally, large spiders eat frogs, but God has forbidden this tarantula from harming her guests, and she obeys Him. She is permitted to “dine on the frog legs” of other species, just not this one. Known for poor eyesight, we might wonder how this spider identifies this particular species of frog. Apparently, she recognizes her flatmates by tasting their skin with her pedipalps.⁵

The frogs are not freeloaders though. They have been ordered by Christ to eat any ants that may make their way into the burrow. (Ants are the tarantula’s most prolific enemy because they consume her eggs.) In return, the spider is expected to guard and protect the frogs.

⁵ Pedipalps are a pair of appendages located at the front of spiders that possess sensitive hairs.

THE DISASTER OF DISOBEDIENCE

Every evening—in what seems like a ritual—the mother spider and her young emerge from the burrow to hunt prey. Approximately 45 to 60 minutes later, the frogs also come out, once they know “the coast is clear.” If a potential enemy, such as a snake, invades the space around the burrow, the frogs quickly find shelter under the hairy legs of the tarantula. Can you imagine seeking shelter beneath an enormous, terrifying spider?!



The face of a wolf spider

The moral of this story is that when our Creator, Christ Jesus, commands the natural enemies of the animal kingdom to obey, they do. This greatly glorifies God! It also becomes a challenge to us that we should obey Jesus and love our enemies (Matthew 5:44-45). Christ’s reign over our lives is greater than our daily trials and knowing this should bring comfort to our hearts.

In the beginning (Genesis 1:11-12, 20-25), God created innumerable plants and animals. Yet, He did not place them randomly upon the face of the Earth. Christ Jesus commanded some species to live on one continent while other species live elsewhere. Through the power of His creative wisdom, our Lord wove these plants and animals together into a tapestry with their physical environment, forming numerous amazing ecosystems worldwide.⁶ Jesus designed these ecosystems to work and function as a cohesive unit—each living thing depending upon the other in obedience to its Creator.

Over the past 500 years, sea and air travel has become so common that some species of plants and animals have been intentionally or unintentionally introduced into ecosystems where they don’t belong . . . with disastrous results. The most famous (or infamous) example is the introduction of European rabbits into Australia as far back as 1788. (Our Lord Jesus did not place any rabbits in Australia.) By the mid-nineteenth century, the rabbit population in the southern part of the country had gotten out of control. Over the



European rabbits in Australia

⁶ Read about Christ’s creation of ecosystems in *CREATOR* Volume 19 Number 2.

next 50 years, a further rapid increase in the number of hungry rabbits resulted in many native plant species being wiped out. Overgrazing also led to severe soil erosion in many parts of Australia.

A similar disaster occurred on the island of Guam in the Pacific Ocean. The brown tree snake was accidentally introduced into Guam's unique forest ecosystem in the 1940s. This species of snake thrived in its new environment by eating local birds. Since then, ten of Guam's twelve native bird species have completely disappeared, and the remaining two species are nearly gone.



Brown tree snake

Sadly, the story does not end here. Our Lord Jesus designed the forest trees of Guam (many are fruit trees) to depend upon local birds to spread their seeds.⁷ In the past, birds ate the fruit and deposited seeds on other parts of the island, helping renew the forest. With the loss of birds, fruit simply falls to the ground and new plants cannot get established due to the presence of the parent trees. Like all ecosystems, there is precise God-given cooperation between plants and animals on Guam. This balance has been greatly affected by just one snake species that doesn't belong there.

⁷ Read more about seed dispersal in *CREATOR* Volume 24 Number 1.

This “disobedience” to the original design of our Creator may be unintentional. We can assume most people today would not wish for native ecosystems to be destroyed. But these two examples—among a hundred others—help us to appreciate the absolute need for great care to be taken in managing Christ's creation with a precision of obedience to Christ's commands (see Genesis 2:15). Our God is exacting in all He does. Understanding how ecosystems function will assist us in this important task. Unlike the naturalistic worldview that believes plants and animals eventually adapt to a new environment, man-caused carelessness proves otherwise.

UNSEEN WARRIORS

Do you ever worry about getting sick? It's good for us to realize that not all microbes are bad. Most bacteria and viruses do not cause illness or infection, and some can be quite beneficial.⁸

At this moment, countless microorganisms are living in your guts (intestines). Some of these bacteria help keep you healthy by producing vitamins.⁹ Others assist in digesting the food you eat. So, the Lord Jesus placed them there for a very good reason.

God has done much the same for salt-water ecosystems. The ocean is full of bacteria also sown there by our Lord. These microscopic creatures are eaten by larger organisms, much the way land animals graze on grass. Bacteria make up an important part of the plankton found in the ocean, and plankton is the foundation of the sea's complex food web.

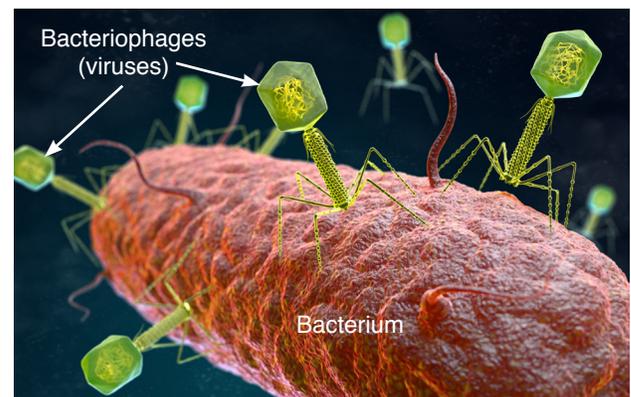
"Aside from the bacteria that live there, what do my guts and the ocean have in common?" you may ask. Scientists have recently come to realize that *viruses also normally dwell in both*. In fact, viruses are essential to the well being of all ecosystems, revealing a biological complexity we never knew existed. (There was a time when viruses were thought only to cause disease.) So how do viruses impact the microbes in our guts and the ocean?

As we've said, both the sea and our intestines possess a great variety of bacterial species. And as long as these rich populations of bacteria are maintained in balance, there is health. Occasionally, however, one type of bacteria gets the upper hand—like dandelions taking over

a field—multiplying out of control and causing disease. We see this in the ocean if blue-green algae (cyanobacteria) numbers explode, fouling coastal waters. When bacterial populations become this great, they produce abundant toxins (poisons), which cause disease or death.

In your intestines, a similar thing can happen if one species of bacteria outnumbers all the rest.¹⁰ When this occurs nausea, vomiting and diarrhea are often the results.

Viruses to the rescue! In Christ's great kindness, God commands different types of viruses—in the ocean and in you—to kill these troublesome bacteria, or at least reduce their numbers to normal, healthy levels. If a species of bacteria grows out of control, these viruses (known as bacteriophages),¹¹ start killing the



Bacteriophages attacking a bacterium

aggressors and reducing their populations. So we see that our Lord's sovereign reign and awesome control extend throughout the world, down to the lowest and smallest forms of life. Viruses and bacteria don't have brains, but because of the way Jesus created them, they perfectly obey His will!

⁸ Read about beneficial bacteria in *CREATOR* Volume 17 Number 3.

⁹ Bacteria can manufacture vitamins B1 (thiamine), B2 (riboflavin), B3 (niacin), B5 (pantothenic acid), B6, B7 (biotin), B9 (folate), B12, and vitamin K.

¹⁰ This sometimes occurs with food poisoning or when taking oral antibiotics.

¹¹ "Phage" comes from the Greek word, *phagos*, which means "to eat," so bacteriophages are literally "bacteria eaters."

THE HOPE OF GLORY

How important is obedience to the well being of Earth? We have seen that the obedience of God's creatures leads to provision of food, protection from enemies, and healthy populations in an environment. But what happens when God's commands are utterly ignored? We read in Hosea 4 that because of widespread sin and disobedience the beasts, birds, and fish are dying:

"There is no faithfulness, no love, no acknowledgment of God in the land. There is only cursing, lying and murder, stealing and adultery; they break all bounds, and bloodshed follows bloodshed. Because of this the land mourns, and all who live in it waste away; the beasts of the field and the birds of the air and the fish of the sea are dying."

Hosea 4:1-3

Man's rebellion has also moved God to turn people against each other in violence (Zechariah 8:10). Today, the ongoing disobedience within our societies painfully reveals that people do not fear God. But this is not God's ordained will for nature, which universally obeys its Creator.

Someone might rightly point out that animals often fight with each other over food and territory, and ask, "Isn't this a type of disobedience?" The Fall of mankind has indeed affected all of nature. Plants and animals are themselves not sinners but have been corrupted by man's sin. As such, "the creation was subjected to futility, *not willingly*, but because of Him who subjected it, in hope that the creation itself also will be set free from its slavery to corruption into the freedom of the glory of the children of God" (Romans 8:20-21 emphasis added).¹² Unlike the rest of creation, however, people

naturally set their hearts upon rebellion *quite willingly* (Jeremiah 17:9).

Obedience is not only vital to the health of our world but is also the *foundation of all true beauty*. Please allow me to give you an example from my own experience. Late yesterday evening, I made my way down to the meadow that lies below our home. When I arrived, I felt as if I had entered the praise of Heaven. Everywhere I looked, tiny amber lights danced across the stage of



tall meadow grass and forest trees. Fireflies faithfully followed their Creator's command to fill this environment with His glory. The number of these sweet, gentle flashes was far too great to count. All around me crickets also sang their hymns to Jesus and the tinkling of the nearby creek added its praise to the chorus. Stars above, softly muted by the moist night air, faithfully declared the majesty of our Lord (Psalm 19:1-4). But "outsinging" them all was the silent worship of fireflies. This was such a sweet, shining display of nature's obedience to its Creator.

Last night, like so many others, Christ painted upon the canvas of forest and meadow a living display of His winsome glory. It was the obedience of what I saw and heard that formed a beautiful testimony or "portrait" of the Creator King

¹² Scripture taken from the New American Standard Bible, Copyright © 1960, 1962, 1963, 1968, 1971, 1972, 1973, 1975, 1977, 1995 by the Lockman Foundation.

Who is worthy of worship! The sweet glow of the lightning bugs drew my heart and mind into full focus upon Jesus (Hebrews 12:2). I thanked and praised God for such a lovely scene; it truly outshined the stars above.

In accord with Job 12:7-10, these insects speak of Immanuel, God with us (Isaiah 7:14; 9:6). The Almighty is everywhere present in the universe and certainly no less in this meadow. If the stars announce God as the Consuming Fire (Hebrews 12:29), then these fireflies communicate the beautiful meekness of Christ (2 Corinthians 10:1).

Puritan Richard Sibbes once wrote that *all of God's attributes are terrible, but in Christ all are sweet*. His words could not have been more true yesterday evening. The fireflies had become gentle messengers of God's holiness—not the blazing flame that consumed Nadab and Abihu (Leviticus 10:1-2), but the holiness of the Savior who obediently purchased upon the Cross a people for His Father's glory.

It is in the obedience of Christ to His Father that we see *the greatest beauty of all*. Jesus died a cruel death for the sins of Believers and rose from the dead on the third day to become the Eternal Life of those who repent and trust in Him. If we obey this Good News—and it is good news for Jesus rescues us from the terrible wrath to come (1 Thessalonians 1:10)—then we will enjoy divine beauty . . . not for an evening, but forever and ever. It is the humble fear of God that produces true obedience and it is obedience—whether found in creation or society—that begets peace and joy, and the beauty that attends them. Christ's Spirit is the One Who works in our hearts so we might lovingly fear God. In this, Christ alone becomes our Hope of Glory (Colossians 1:27).

13 Scripture taken from the New American Standard Bible, Copyright © 1960, 1962, 1963, 1968, 1971, 1972, 1973, 1975, 1977, 1995 by the Lockman Foundation.

Please make up your mind right now to obey the Living God. If you know Christ, apply yourself diligently to His Word and obey all of Christ's commands through the strength of Christ's Spirit within you. "This is love: that we walk in obedience to his commands" (2 John 6). And if you don't know God, please repent of your disobedience and trust that He can and will save you from your sins through the blood of Christ. Let us all obediently shine the glory of God as faithful gentle flames (Ephesians 5:8), so that we might "appear as lights in . . . the midst of a crooked and perverse generation"—"holding fast the Word of Life" (Philippians 2:15, 16).¹³

Now all has been heard;
here is the conclusion of the matter:
Fear God and keep his commandments,
for this is the whole duty of man.
Ecclesiastes 12:13



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