Ark Signs

That Teach a Flood of Answers

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First printing: August 2017

Master Books®, P.O. Box 726,
Green Forest, AR 72638

Master Books® is a division of the
New Leaf Publishing Group, Inc.

ISBN: 978-1-68344-068-0
ISBN: 978-1-61458-614-2 (digital)

Library of Congress Number: 2017911156

Cover by Diana Bogardus

Scripture referenced in this book is based on the New King James Version, New International Version, English Standard Version, New American Standard Bible, and the New English Translation.

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Introduction

The Ark Encounter is a one-of-a-kind attraction featuring dozens of world-class exhibits within its spacious interior. Themed exhibits allow visitors to experience what life may have been like on the Ark. Packed with beautiful artwork, lifelike sculptures, stunning dioramas, and edifying videos, the teaching exhibits in the Ark effectively communicate biblical topics related to Noah, the Ark, the Flood, and most importantly, the gospel message of Jesus Christ.

As content manager for the attraction, I know that each exhibit brought its share of challenges. My assistant, Mike Belknap, and I had the responsibility of writing the text for all of the signage, but each and every display involved many other skilled individuals. We frequently consulted experts in relevant disciplines as we sought to explain a wide variety of complex topics in an easy-to-understand manner. For example, our team often met with Dr. Andrew Snelling (PhD, geology) as we worked on the Ice Age and Flood Geology exhibits, and we checked with specialists in biology and genetics while working on the animal exhibits. All content was thoroughly reviewed by experts before being handed over to our talented graphic designers who transformed our words and this expertise into attractive signs.

Working behind the scenes with the Ark Encounter's design team was an honor. To have witnessed each of the extraordinary exhibits develop from the initial brainstorming sessions into the finished product enjoyed by thousands of visitors every day at the Ark has been one of the most unique experiences of my life.

Knowing that lives have already been changed for eternity as they have come face-to-face with the gospel message at the Ark Encounter makes all the challenges and long hours we faced well worth it. My prayer is that many more people will come to believe in the Lord Jesus Christ through the teaching at the Ark Encounter and products like this book.

Since we could not fit every Ark sign into a book this size, we selected the primary teaching exhibits for inclusion in this work.

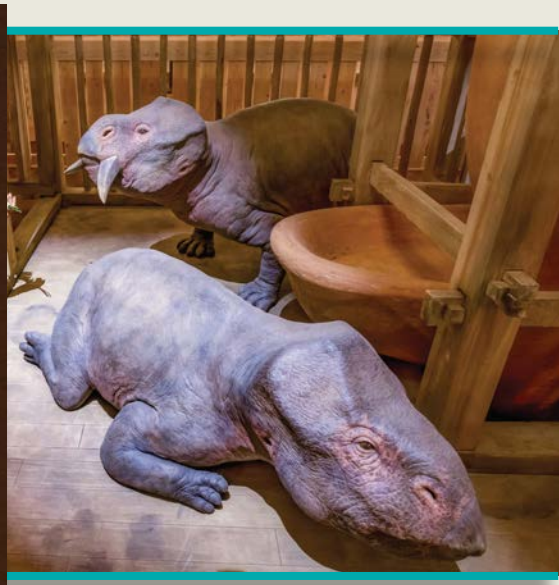
Sincerely,
Tim Chaffey,
Content Manager, Attractions Division of Answers in Genesis

THE STAHLECKERIID KIND

Status: presumed extinct
Adult lengths: 9.8–13 ft (3–4 m)

REPRESENTATIVE SHOWN: *PLACERIAS*

- Better resembling something from science fiction than any animal today, stahleckeriids were a kind of non-mammalian synapsid—being more similar to mammals than modern reptiles.
- Like other stahleckeriids, *Placerias* (depicted here), boasted tusk-like features that were actually facial flanges rather than teeth or true horns.
- The largest known stahleckeriids weighed up to 2.2 tons (2000 kg) when fully grown.



THE CYNOGNATHID KIND

Status: presumed extinct
Adult length: up to 4.8 ft (1.5 m)

REPRESENTATIVE SHOWN: *CYNOGNATHUS*

- Cynognathids and similar groups are considered to be non-mammalian synapsids because they were more like mammals than lizards or crocodiles.
- Cynognathids had opossum-like bodies and may have even sported whiskers.
- The family is named after its only known member, *Cynognathus*, meaning "dog jaw."

THE HYENA KIND

Status: three living genera
Adult lengths: 1.8–5.6 ft (55 cm–1.7 m)

REPRESENTATIVE SHOWN: *ICTITHERIUM*

- Originally classified as dogs, hyenas form a kind of their own.
- The largest known member, *Pachycrocuta*, stood 3.3 feet (1 m) high at the shoulder.
- Wild populations today are only found in Africa and western Asia, but fossil remains have been found in places like England, Java, and Mexico.

Canids
The Dog Kind

The figure in this display case is modeled after the extinct canid, *Hesperocyon*. Over 160 fossil specimens of *Hesperocyon* have been collected from Eocene and Oligocene rock layers of Canada and the United States.

Modern wolves, jackals, foxes, and other dogs belong to the family Canidae. Since the members of this family can interbreed they are considered to be of the same created kind. This means that all post-Flood canids descended from the members of this kind Noah brought with him on the Ark.

Canines are the only living canids, but historically there were at least two other major groups: the hesperocyonines and borophagines—the latter of which were the "bone-crushing" dogs of North America.

THE ALLIGATOR KIND

Status: four living genera
Adult lengths: 3.3–39 ft (1–12 m)

REPRESENTATIVE SHOWN: *CAIMAN*

- Alligatorids buried in the same rock layers as dinosaurs were often smaller than most modern representatives.
- Giant fossil caimans recovered from Miocene rock layers of South America, *Purussaurus* and *Mourasuchus*, achieved a maximum estimated length of 39 feet (12 m).
- Crocodilians—alligators, crocodiles, diplocynodonts, gharials, planocraniids, and pristicampsids—may form one created kind, but Ark Encounter researchers separated them to avoid underestimating the number of Ark animals.

THE THYLACOSMILID KIND

Status: presumed extinct
Adult lengths: 2.6–6 ft (80 cm–1.8 m)

REPRESENTATIVE SHOWN: *THYLACOSMILUS*

- Resembling saber-toothed cats, the South American thylacosmilids are instead classified as metatherians—a group that includes marsupials.
- *Thylacosmilus* reached the size of a jaguar, though the other members of the kind were smaller.
- It is believed that female thylacosmilids carried their young in a rear-facing pouch.

THE SIMOSUCHUS KIND

Status: presumed extinct
Adult lengths: 2.5 ft (75 cm)

REPRESENTATIVE SHOWN: *SIMOSUCHUS*

- These crocodile-like reptiles likely used their leaf-shaped buckteeth to munch on plants.
- *Simosuchus* means "pug-nosed crocodile" and refers to the flattened faces characteristic of this genus.
- Some researchers believe that they were fossorial—that is, they burrowed.

Felids
The Cat Kind

The figure in this display case is modeled after the extinct felid, *Proailurus*. Fossil specimens of *Proailurus* have been collected from Oligocene and Miocene rock layers of Germany, Mongolia, and Spain.

Modern lions, tigers, bobcats, and other cats belong to the family Felidae. Since the members of this family can interbreed they are considered to be of the same created kind. This means that all post-Flood felids descended from the members of this kind Noah brought with him on the Ark.

Living felids are represented by felines and pantherines, but historically there were at least two other major groups: the proailurines and machairodontines—the latter of which were the saber-toothed cats.

THE MACRAUCHENIID KIND

Status: presumed extinct
Adult lengths: 6–9.8 ft (1.8–3 m)

REPRESENTATIVE SHOWN: *THEOSODON*

- The South American macraucheniids are the only known kind featuring both a long neck and facial trunk.
- Like other macraucheniids, our Ark representatives, modeled after *Theosodon*, bore three toes on each foot.
- Macraucheniids had a size range similar to camelids, but are thought to have gone extinct during the Ice Age.

THE SILESAUR KIND

Status: presumed extinct
Adult lengths: 2.3–9.8 ft (70 cm–3 m)

REPRESENTATIVE SHOWN: *SILESAURUS*

- Silesaurs were not true dinosaurs but were a part of a group that included them—Dinosauriformes.
- They were facultative bipeds, meaning they could move on two legs if necessary.
- The largest known member of this kind, *Asilisaurus*, grew up to 3 feet (90 cm) high at the hips.

THE ENTELODONT KIND

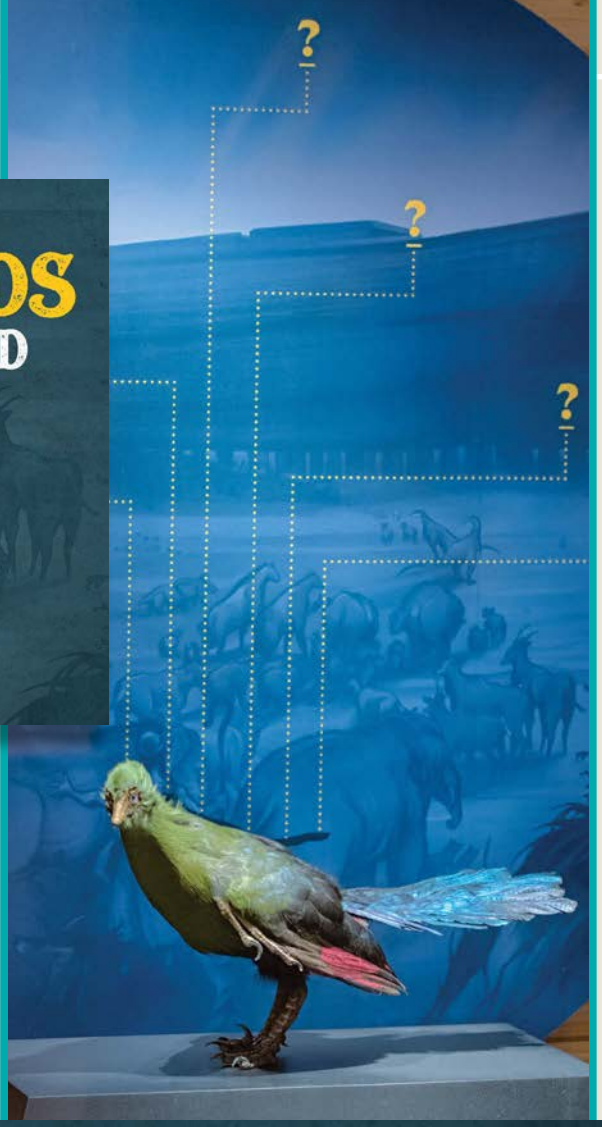
Status: presumed extinct
Adult lengths: 4–10 ft (1.2–3 m)

REPRESENTATIVE SHOWN: *ARCHAEOTHERIUM*

- Once considered pig relatives, entelodonts were a unique kind known only from fossils found in pre-Ice Age rock layers.
- Nicknamed "terminator pigs," entelodonts ranged from two to over six feet high.
- Certain entelodonts apparently hoarded their prey in meat caches.

ARCHAEOPTERYGIDS
THE ARCHAEOPTERYX KIND

The figure in this display case is modeled after the archaeopterygid, *Archaeopteryx*. Fossils of *Archaeopteryx* have been collected from Jurassic rock layers of Germany.



Long branded a poster child of evolution, ***Archaeopteryx*** poses no difficulty for biblical creationists. Even many evolutionary scientists now reject the idea that ***Archaeopteryx*** was a direct ancestor of modern birds—a fact that often remains unrecognized on a popular level. There is a deep lack of consensus among evolutionists regarding the origin of modern birds.

New fossil specimens, as well as the way in which some researchers now define birds as avian dinosaurs, have sparked disagreements on how to classify ***Archaeopteryx***. Regardless of how people classify ***Archaeopteryx***, only animals within a created kind are related; and kinds never change into other kinds. ***Archaeopteryx*** was neither a "missing link" nor a hodgepodge of different animal traits. Rather, this creature was a complete, fully functioning, and fascinating bird.

THE CATTLE KIND

Status: nine living genera
Adult lengths: 2.6–15.7 ft (80 cm–4.8 m)

REPRESENTATIVE SHOWN:*MIOTRAGOCERUS*

- Bovine are a very diverse group of animals that include buffalo, bison, and certain antelopes.
- When we see the word *cattle*, we often envision modern domesticated members of the genus *Bos*—cows and bulls—but when extinct forms are factored in, this kind is accurately described as "antelope-like."
- The gigantic Ice Age species, *Bison latifrons*, is the largest recorded representative of this kind, surpassing 2.2 tons (2000 kg) in weight and reaching a shoulder height of 8.2 feet (2.5 m).

THE STEGOSAUR KIND

Status: presumed extinct
Adult lengths: 13–30 ft (4–9 m)

REPRESENTATIVE SHOWN:*HESPEROSAURUS*

- Fossil remains have revealed that stegosaur plates were covered in keratin, the same material as hair and fingernails.
- Plate shapes may have been different between males and females, something called a sexually dimorphic trait.
- Stegosaur spikes, or the "thagomizer," were probably used defensively, as indicated by injuries found on an allosaur tail bone.

THE PACHYCEPHALOSAUR KIND

Status: presumed extinct
Adult lengths: 4.5–15 ft (1.4–4.6 m)

REPRESENTATIVE SHOWN:*PACHYCEPHALOSAURUS*

- Recognized as the classic "head-butting dinosaurs," pachycephalosaurs weren't born with domed caps.
- Originally considered a unique species, it now seems that *Dracorex hogwartsia* was just a juvenile *Pachycephalosaurus*.
- Broad tail bases likely accommodated a hindgut, while the remainder of their tails were flattened side-to-side and stiffened internally by tendons.

Pongids
The Great Ape Kind

The figure in this display case is modeled after the extinct pongid, *Pierolapithecus*. Fossils of *Pierolapithecus* have been collected from Miocene rock layers of Spain.

Pierolapithecus is popularly considered the ancestor or near-ancestor of modern apes and humans. But the Bible teaches that the first man, Adam, was formed of the ground and made a living being when God breathed into his nostrils. Furthermore, the Bible teaches that Adam's sin in the Garden of Eden first introduced human and animal death. This means that death—and by necessity, evolution—could not have taken place prior to Adam's sin. Apes and humans are therefore different created kinds.

Some will point to "ape-men" as proof of our non-human ancestry. The problem with this claim is that all of these supposed "missing links" are best identified in one of the following ways: fully humans, fully non-humans, or frauds. Once trumpeted as proof of human evolution, Piltdown Man and Nebraska Man, for example, are now identified as a deliberate fraud and a fossilized pig tooth, respectively. *Australopithecus afarensis* of "Lucy" fame was a chimpanzee-like, tree-dwelling ape, while Neanderthals were the fully human descendants of Noah. So rather than challenging the Bible's claims, these fossil finds are consistent with the scriptural record.

THE SPINOSAUR KIND

Status: presumed extinct
Adult lengths: 25–50 ft (7.6–15.2 m)

REPRESENTATIVE SHOWN: *BARYONYX*

- Spinosaurs were a group of large predatory dinosaurs known for their crocodile-like heads, huge hooked claws, and sailbacks.
- The group is named after its largest member, *Spinosaurus*, who may have spent much of its time in the water.
- At least one representative, *Baryonyx* (depicted here), did not sport a sail.

THE TYRANNOSAUR KIND

Status: presumed extinct
Adult lengths: 9–43 ft (2.7–13 m)

REPRESENTATIVE SHOWN: *TYRANNOSAURUS*

- Tyrannosaur tooth marks are routinely identified on apparent prey and healed bite injuries from would-be victims.
- The age of the oldest known tyrannosaur individual is estimated at 28 years.
- The presence of medullary tissues in the bones of a sub-adult *T. rex* indicates that the specimen was female and had reached reproductive maturity before achieving full size.

THE PAKICETID KIND

Status: presumed extinct
Adult lengths: 3.3–6.6 ft (1–2 m)

REPRESENTATIVE SHOWN: *PAKICETUS*

- Recent studies suggest a semi-aquatic lifestyle for pakicetids, but they may have been fully terrestrial.
- They had unusually dense limb bones, possibly to provide ballast in shallow water.
- Pakicetid fossils have been recovered from pre-Ice Age rock layers of India and Pakistan.

What did the Ark's carnivores eat?

After making everything, the Lord stated that people and animals were to eat vegetation (Genesis 1:29–30). It was not until after the Flood that God permitted man to eat meat (Genesis 9:3). We cannot be sure when certain animals began to eat meat, although the fossil record provides strong evidence that carnivory occurred prior to the Flood.

If carnivorous activity was prevalent in the pre-Flood world, it is still possible that the animals the Lord sent did not eat meat or that they could have survived for one year without it.
There have been modern examples of animals normally considered to be carnivores that refused to eat meat, such as the lion known as Little Tyke.

However, if some of the Ark's animals did eat meat, there are several methods of preserving or supplying their food. Meat can be preserved through drying, smoking, salting, or pickling. Certain fish can pack themselves in mud and survive for years without water—these could have been stored on the Ark. Mealworms and other insects can be bred for both carnivores and insectivores.

Do These Look Like Whales?

Pakicetids were a small family of mammals whose remains have been found in Eocene rock layers of Pakistan. Pakicetids are currently promoted in popular models of evolution as transitional forms to ultimately help bridge the gap between extinct land animals and modern whales.

On the one hand, biblical creation does not automatically exclude mode-of-life changes occurring within animal kinds. For instance, we have the example of kakapos—flightless parrots from New Zealand—having apparently descended from flying ancestors. So the basic idea that members of a whale kind shifted from land-dwelling lifestyles to water-dwelling lifestyles may seem somewhat plausible.

On the other hand, one of the greatest weaknesses of the pakicetids-to-whales idea is a lack of evidence. The changes necessary for converting pakicetids into modern whales are extreme and particular; a flood of change contrived from only a few drops of evidence. Even a cursory glance reveals that pakicetids and other supposed whale ancestors were quite unlike modern whales.

THE RHINOCEROS KIND

Status: four living genera
Adult lengths: 5–16 ft (1.5–5 m)

REPRESENTATIVE SHOWN: *TRIGONIAS*

- The earliest known rhinos were relatively small and hornless, or bore small nasal bumps.
- Most members of this kind featured between one and three facial horns.
- Rhinos are unusual in that all living genera are found in rock layers below Ice Age deposits.

THE CHALICOTHERE KIND

Status: presumed extinct
Adult lengths: 7.5–11 ft (2.3–3.4 m)

REPRESENTATIVE SHOWN: *ANISODON*

- Chalicotheres may have looked a bit like giant ground sloths, but were actually more physically similar to tapirs, rhinos, and horses.
- Minimal tooth wear indicates that these animals ate soft plant material.
- Fossils of this kind persist into the early stages of the Ice Age, though some suggest that the "Nandi bear"—an unconfirmed African animal—may actually be a late-surviving chalicothere.

THE REBBACHISAUR KIND

Status: presumed extinct
Adult lengths: 20–50 ft (6–15 m)

REPRESENTATIVE SHOWN: *NIGERSAURUS*

- Sauropods are known for their great size, but not every variety was extremely massive. Stretching about 15 feet (4.6 m) nose to tail, these young rebbachisaurids are half the size of adults.
- The *Nigersaurus* is named for the Republic of Niger, the nation in which its fossils were originally discovered.
- Facial features indicate that they were low-level grazers, like the behemoth described in Job 40:15–24.

Were Unicorns on the Ark?

Skeptics frequently mock the Bible because some older translations include the word *unicorn* in the text. Naturally, this word conjures up images of a mythical, white horse-like animal with a single horn on its head. But is this what the biblical writers had in mind? Does the Bible mistakenly teach the existence of this mythical animal?

Newer Bible versions translate the Hebrew with terms like "wild ox" or "wild bull." Biblical passages that describe this creature mention the following characteristics:

- Great strength (Numbers 23:22, 24:8)
- Not suitable to keep near children or to use for plowing a field (Job 39:9–10)
- Younger animal can skip about (Psalm 29:6)
- One horn (Psalm 92:10) or two horns (Deuteronomy 33:17)

The characteristics of this creature do not fit the horse or a horse-like animal, but there is an animal that fits these descriptions quite well—the rhinoceros. They are incredibly strong, unfit for domestication, and young rhinos can skip. Rhinos can also have one horn or two horns. And just as is seen on two-horned rhinos today where one horn is larger than the other, Deuteronomy 33:17 mentions the two-horned version of this creature and implies that one horn is larger than the other.

The King James Version of the Bible was translated in 1611. At that time, rhinos were often referred to as unicorns. More than two centuries later, the 1828 edition of Webster's Dictionary included the following definition for unicorn: "An animal with one horn; the Monoceros. The name is often applied to the rhinoceros." This is still reflected in our classification system. The Indian rhinoceros has a single horn and is called *Rhinoceros unicornis*. The black rhinoceros boasts two horns and bears the Latin name *Diceros bicornis*.

Countless skeptics have asked whether there would be unicorns at the Ark Encounter. There is no reason for them to wonder any longer. Here are the Ark's unicorns—the rhinoceros kind.

THE GIRAFFE KIND

Status: two living genera
Adult lengths: 8.2–18 ft (2.5–5.5 m)

REPRESENTATIVE SHOWN: *SHANSITHERIUM*

- The extinct species *Giraffa jumae* was the tallest among known members of the kind, standing about 22 feet (6.7 m) high.
- The skin-covered bony protuberances on giraffid heads—called ossicones—are initially soft and cartilaginous, so as to ease the birthing process.
- These figures are modeled after *Shansitherium*, a medium-sized extinct giraffid from China featuring four ossicones.

THE HORSE KIND

Status: one living genera
Adult lengths: 2.8–12 ft (85 cm–3.8 m)

REPRESENTATIVE SHOWN: *MESOHIPPUS*

- Modern representatives of the horse kind are quite similar overall, but ancient forms were more diverse.
- Members are identified by defining skull and tooth features, and living varieties—horses, donkeys, and zebras—can interbreed.
- The modern-looking genus *Dinohippus* contained both one-toed and three-toed individuals. This is not evolution but variation within the horse kind.

THE HIPPOPOTAMUS KIND

Status: one living genera
Adult lengths: 3.9–14 ft (1.2–4.3 m)

REPRESENTATIVE SHOWN: *CHOEROPSIS*

- Though they have varied in size, and a bit in shape, it seems that hippos have changed relatively little since the Flood.
- Certain extinct varieties (e.g., the giant species, *Hippopotamus gorgops*) featured elevated eye placement, forming low eye stalks on top of their heads.
- Fossils of the living genus *Choeropsis*—also called *Hexaprotodon*—are found in pre-Ice Age rock layers.

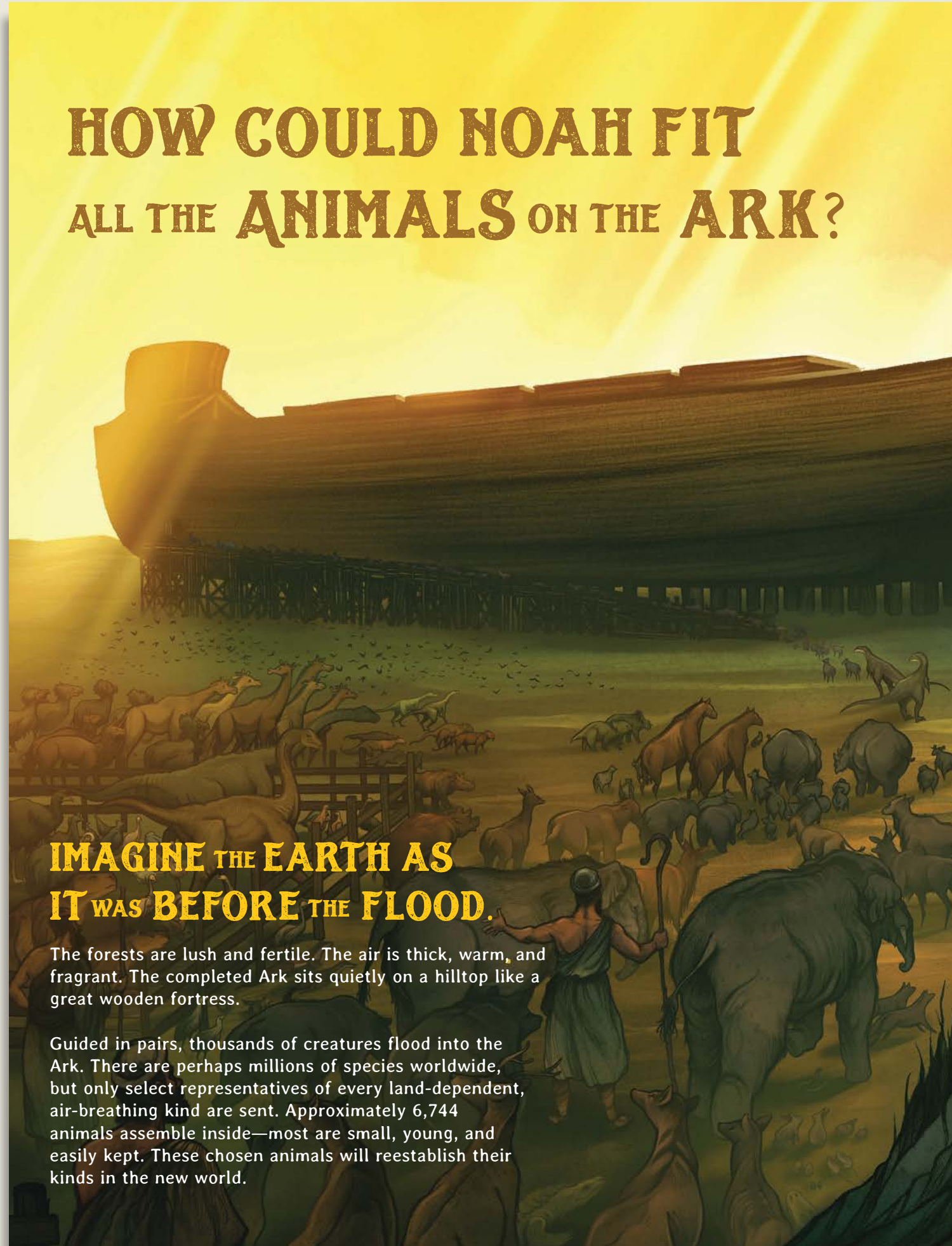
WHY IS THE GIRAFFE'S NECK SO SHORT?

Giraffidae is a family of large mammals, currently represented by only two species. They have split hooves and re-chew their food, indicating they qualify as "clean" animals according to the dietary laws described in Leviticus. This means that up to seven pairs of this kind may have boarded the Ark rather than just a single pair.

Today, giraffids are often considered in light of their most popular member: the long-necked giraffe. However, the other living member of the family, the okapi, has more reserved proportions. Indeed, the majority of fossil giraffids had shorter necks than the modern giraffe. This suggests that the Ark giraffids were probably more okapi-like in appearance than the giraffe.

The long neck of the giraffe is only one example of variation within this kind. *Sivatherium,* with its stocky body and branched ossicones, resembled a moose, while *Bramatherium* had a plate of bone on its head that split into four ossicones like an elaborate headdress. Fossil giraffids have been recovered from rock layers as low as the Miocene across Asia, Africa, and Europe.

How could Noah fit all the animals on the Ark?



Imagine the earth as it was before the flood.

The forests are lush and fertile. The air is thick, warm, and fragrant. The completed Ark sits quietly on a hilltop like a great wooden fortress.

Guided in pairs, thousands of creatures flood into the Ark. There are perhaps millions of species worldwide, but only select representatives of every land-dependent, air-breathing kind are sent. Approximately 6,744 animals assemble inside—most are small, young, and easily kept. These chosen animals will reestablish their kinds in the new world.

HOW MANY SPECIES ARE THERE IN THE WORLD TODAY?

According to estimates published in 2014,* there are fewer than 1.8 million documented species of organisms in the world. Over 98% of these species are fish, invertebrates, and non-animals (like plants and bacteria). This means that there are fewer than 34,000 species of known, land-dependent vertebrates in the world today.

*IUCN 2014. IUCN *Red List of Threatened Species.* Version 2014.3. <www.iucnredlist.org>. Downloaded on 1 July 2016.

THE ARK NEEDED TO HOUSE THE ANCESTORS OF FEWER THAN **34,000** LAND DEPENDENT SPECIES.

Location: Deck Two

OBSERVABLE PROCESSES SHOW SPECIATION WITHIN KINDS, NOT EVOLUTION OF ONE KIND INTO ANOTHER KIND

NATURAL SELECTION

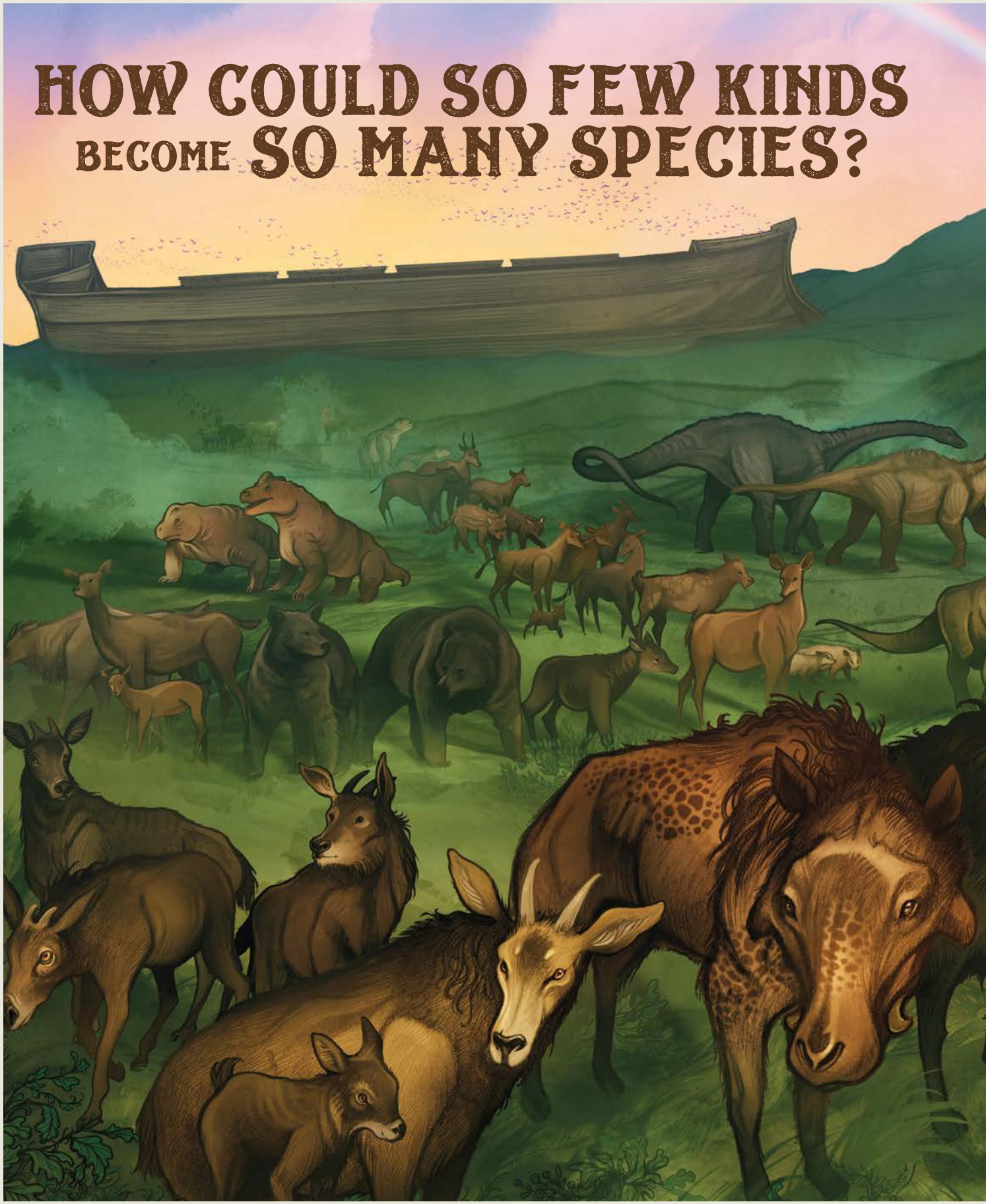
Natural selection is an observable process in which creatures possessing specific traits survive better than others in a given environment. While commonly promoted as a driving force of molecules-to-man evolution, natural selection cannot bring about the changes required to turn one kind of creature into another. Natural selection is only able to act on pre-existing features, and contrary to popular belief, it cannot create new ones.

MUTATIONS

A mutation is essentially a permanent change to the DNA of an organism. Evolutionists consider random mutations to be the primary means of producing new genetic information. However, the vast majority of observed mutations have negative effects, and the mutations that are either "neutral" or somehow beneficial still do not add the information necessary to transform one kind of organism into a totally different kind, such as dinosaurs evolving into birds.

OTHER MECHANISMS

Other mechanisms are often cited that supposedly contribute to the evolutionary process, such as sexual selection, founder effect, and genetic drift. No one has demonstrated that these are capable of producing the vast amount of new genetic information required to change one kind of creature into a completely different kind.


HOW COULD SO FEW KINDS
BECOME SO MANY SPECIES?

IMAGINE STEPPING OFF OF THE ARK INTO A WORLD WIPED CLEAN BY THE FLOOD.

The climate and land are fundamentally altered. Plant life has only begun to take root again, and there are fewer varieties than before. Across the entire expanse of the planet, not a single landmark, tree, or land-dependent vertebrate persists from the pre-Flood earth. Thus far, this new world is harsh, uninviting, and unfamiliar.

How did the animals respond to this alien environment? Based on fossil evidence and scientific models of rock layering, we can infer that the reactions were often quite significant. Physical trends among animals preserved in early post-Flood rock layers reveal that many of the Ark kinds adapted quickly. The decades passed and the animals began exhibiting post-Flood specializations—features that helped them gain footholds in the post-Flood earth.

These changes within kinds demonstrate the mercy, creativity, and foresight of the Creator.

THE EXIT

As the dog representatives exit the Ark, they find themselves in an unfamiliar world. Gone are the rolling hills and lush forests of the pre-Flood earth. In their places stand mountains and rocky plains.

In this strange, empty landscape, the survival of dogs is dependent upon their ability to adapt. Thankfully, God has given them just such a gift.