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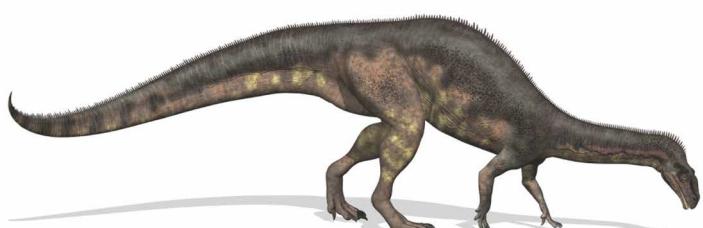
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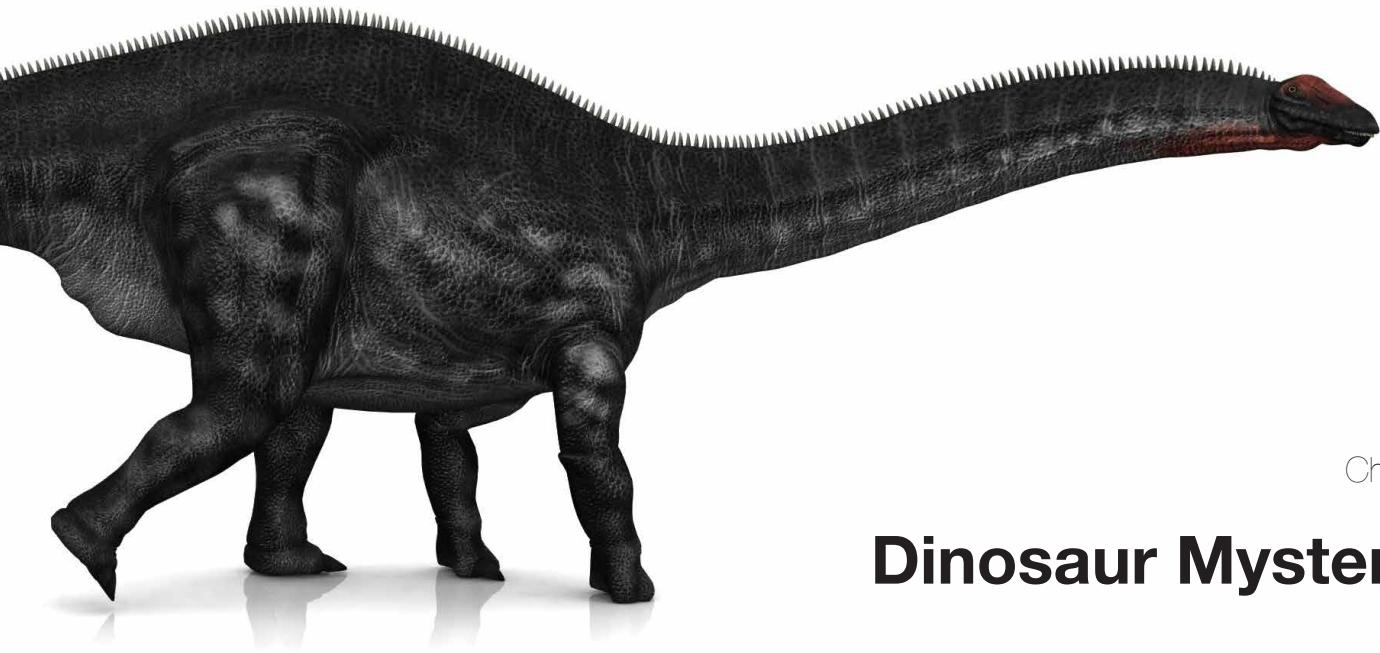
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Chapter 1

Dinosaur Mysteries

Dinosaurs have an almost magical appeal to our imagination. Boys of all ages are especially curious and addicted to the creatures, as seen by the billions of dollars spent on dinosaur toys each year. Dinosaur specials are a staple of the Discovery and Science channels, as well as feature motion pictures, like the Jurassic Park series. A similar curiosity drives scientists; millions of dollars are spent each year excavating dinosaur fossils, searching for one more elusive clue that will tell us more about these extinct beasts.

The word *dinosaur* means ‘terrible lizard’. It was coined by Sir Richard Owen in 1841. A dinosaur is essentially a unique reptile with its legs positioned directly beneath its body, distinct from other lizards whose legs flare out from their bodies (figure 1.1). In fact, we are not even certain if dinosaurs were reptiles in the modern sense.

Dinosaurs have been divided into two groups based on the shape of the hipbone: (1) the lizard-hipped dinosaurs, and (2) the bird-hipped dinosaurs.¹ The ferocious upright predators, like *T. rex*, are a part of the lizard-hipped group and are called theropods. The long-necked, long-tailed sauropods were also lizard-hipped dinosaurs. Bird-hipped dinosaurs included the ‘duck-billed’ dinosaurs, armored dinosaurs like *Ankylosaurus*, and the tank-like beast called *Triceratops*.

Dinosaur fossil bones are found all over the earth, even near the poles—from Antarctica to northern Canada. Apparently, they thrived on every continent.

Ancient dinosaurs and dinosaur-like creatures lived on land, in the sea, and even in the air. Swimming animals that are similar to dinosaurs, such as plesiosaurs, are common.² These are not classified as dinosaurs but are called marine reptiles (figure 1.2). Other dinosaur-like creatures included those that flew, such as the pterodactyl. Again, these are not strictly classified as dinosaurs, but as flying reptiles (figure 1.3).

Even so, there appear to be almost a thousand dinosaur species (claimed). ‘New’ dinosaur types seem to pop up with great regularity. Of course, many of these species may well result from the enthusiasm of paleontologists for registering any difference as indicative of another

Figure 1.1 Illustration contrasting a lizard versus a dinosaur with legs directly beneath.

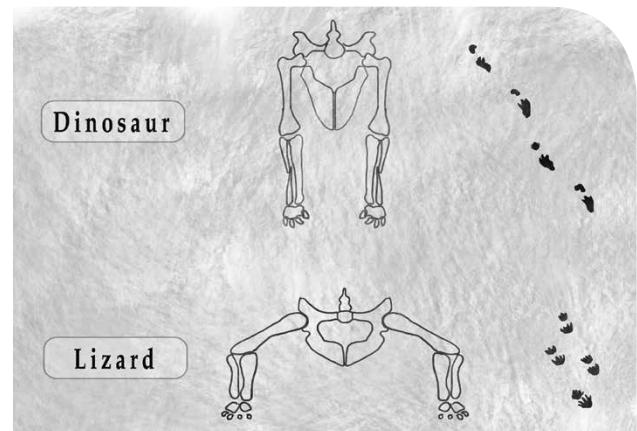




Figure 1.2 Plesiosaurs are marine reptiles.

species. At present, there are over 800 named dinosaur species, but many of these are probably not valid.³ When we look at the true distinctions between different types, we see that there are really only about 50 main kinds of dinosaurs. Many species exhibit only very slight variations from others of that kind. This proliferation of names causes confusion in any taxonomic classification of dinosaurs:

“On these matters—the definition of the dinosaurs and their classification—there were considerable differences of opinion among paleontologists. Even today, there has not been established an exact definition of the dinosaurs that satisfies every scientist. Moreover, there continues to be disagreements among paleontologists on how to precisely subdivide these reptiles in small groups of similar and related animals.”⁴

One book on dinosaurs describes fifty-three main types of dinosaurs,⁵ but even some of these, like the sauropods (figure 1.4) and duck-billed dinosaurs, are fairly similar to each other. It is interesting that the giant sauropods were denizens of the Jurassic (see figure A1.1 for the location of the Jurassic within the geological column), then they disappear in the Cretaceous, before re-appearing in the late Cretaceous.⁶ At present, we are left to conclude that sauropods evolved, went extinct, and then evolved once more!

One large group of dinosaurs—the ceratopsians (figure 2.2)—perhaps corresponds to one of the Genesis ‘kinds’. Although there is variation, there are also striking similarities. *Triceratops* is the best known of the ceratopsians. Other ceratopsians vary from it mainly in the number and types of horns and in the nature of their bony ‘shield’ or head plate. Otherwise, they are so similar that it is hard to distinguish different species

below the neck from fossil remains. It is even difficult to distinguish male from female and young from old.⁷

Two dinosaur puzzles

Despite exciting reconstructions in movies and television shows, dinosaurs are known only by their fossil remains, found in sedimentary rocks (figure 1.5). And despite 150 years of intense study, these bones present many puzzles to paleontologists:

“Even though paleontologists have been studying dinosaurs for more than 150 years, there are still many lingering questions and nagging uncertainties about the animals.”⁸

One of these puzzles is whether dinosaurs were warm-blooded, like mammals, or cold-blooded, like modern reptiles. Another is why dinosaur fossils are often found in ‘dinosaur graveyards’.

Were dinosaurs warm-blooded?

Modern lizards are cold-blooded, and depend on the air temperature to regulate their metabolism. This is in contrast to warm-blooded mammals, which regulate their own temperature, keeping it constant despite the surroundings. One way they do this is by insulation, often by hair or fur. But some paleontologists believe that dinosaurs were also warm-blooded. In fact, that question was considered one of the top eighteen mysteries of science by *U.S. News and World Report*.⁹

Until the later decades of the 20th century, dinosaurs were assumed to be cold-blooded reptiles, like the crocodile. But paleontologists began to challenge that belief, starting with the influence of Robert Bakker.¹⁰ The discovery of dinosaur remains near the poles (see chapter 2) reinforced this new idea. How could cold-blooded lizards live in high latitudes, unless they were warm-blooded?

After several decades of study, the question remains open because the evidence is not conclusive either way.^{11,12} The idea they were warm blooded has been well received by the public, but many observations seem to point the other way.^{13,14} One is the size of the nostrils and the breathing apparatus; very different in birds and dinosaurs. Warm-blooded mammals and birds have small noses and turbinates that control the

relative humidity of the air that they inhale, while cold-blooded animals lack these features. Dinosaurs had small noses but did not possess turbinates, suggesting that they were cold-blooded.¹⁴

Another consideration is the difficulty that large sauropods would have in keeping their extreme mass from overheating.¹⁵

For a time, scientists thought that the microscopic examination of the inside of dinosaur bones, in search of abundant blood vessels, would provide the answer.¹⁶ But these analyses have proven of little use.¹⁷ That is because the density and character of blood vessels in both cold-blooded reptiles and warm-blooded mammals depend especially on the animal’s activity level.¹⁴ Scientists have found that the density of blood vessels depends more on the amount of exercise; both warm- and cold-blooded sedentary creatures have fewer blood vessels.¹⁴ These studies only confirmed what was long known. Dinosaur physiology—just like their growth rates and behavior—is still a poorly-understood and controversial area.^{18,19} Feduccia *et al.* asserted there

Figure 1.3 The pterodactyl is a dinosaur-like creature described as a flying reptile.





Figure 1.4 Illustration of a sauropod.

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really is no evidence for warm-blooded dinosaurs: “Yet there has never been, nor is there now, any clear evidence that dinosaurs were endothermic [warm-blooded] ...”²⁰ Many paleontologists have resolved the conflicting evidence by believing that dinosaurs had a *unique* circulatory system; not necessarily cold- or warm-blooded.^{19,21} Another belief that drives many away from the evidence that suggests a cold-blooded system in dinosaurs is their supposed evolutionary link to warm-blooded birds (see Appendix 2).

Dinosaur graveyards

Many dinosaur fossils are found in large accumulations called ‘dinosaur graveyards’ or ‘dinosaur bonebeds’. These can contain the bones of thousands of creatures. One such graveyard in northeastern Wyoming (figure 1.6) probably contains thousands of mostly duck-billed dinosaurs.²²

A bonebed about 70 miles (110 km) northwest of Great Falls, Montana stretches 1.25 miles (2 km) east to west and a 0.25 miles (0.4 km) north to south. It is approximately 3 feet (1 m) thick and is conservatively estimated to contain 30 million fossil fragments from 10,000 duck-billed dinosaurs.²³ These dinosaurs appear to be all from the same species! How would such a concentration of one species of dinosaur be buried and fossilized in this one place?

A new graveyard found in China appears to be even larger—it is said to be the largest in the world.²⁴ This extraordinary grouping of dinosaur fossils is one of the unsolved mysteries of paleontology, and will be discussed in depth in chapter 5.

Two views on dinosaur fossils

Questions about dinosaurs are questions of natural history.²⁵ Since history requires philosophy,²⁶ we must understand the philosophical options, which boil down to theism or atheism. In the former, different kinds of dinosaurs were created with a limited ability for variation in their offspring. In the latter they are merely another branch of the evolutionary tree of life. Furthermore, biblical history includes the catastrophic Flood, which would have killed all of the dinosaurs not on Noah’s Ark. Ironically, cataclysmic scenarios are now included in the secular catastrophic theories.

Naturalism is the philosophy that posits nature is all that exists; there is no supernatural. Naturalism, or atheism, is the foundational platform of the dominant worldview opposed to Christianity, which asserts that dinosaurs appeared, evolved, and went extinct over millions of years, by purely natural processes.

Since the early 19th century, a corollary to the philosophy of naturalism has been historical uniformity or uniformitarianism.²⁷ Uniformitarianism is the principle that the geological processes that we observe today are much the same as the processes that have operated across time. Recent years have seen geologists turn away from classical uniformitarianism to what is called neocatastrophism, which accepts the slow-and-gradual uniform natural history, but punctuated by catastrophic events such as a large meteorite impact. However, most geologists, even catastrophists, still believe that ‘the present is the key to the past’ Merged with evolution, naturalism is the basis for the story of dinosaurs most familiar to the public.

Clearly, the conflict goes deeper than science. This is evident by the conclusions drawn by advocates of naturalism, who have long asserted that their view of history discredits the Bible and Christianity. That conclusion alone is sufficient to suggest the religious motivations of many ‘objective’ scientists.

A related problem is the scientific study of past events. People accept this as a scientific discipline—historical science. But at the same time they recognize that science is based on repeatable observation and experimentation. Clearly, past events are past and are not open to observation and experimentation. Why this schizophrenic view? It rose during the Enlightenment, when intellectuals wanted to use science (then called ‘natural history’) to discredit the Bible. Their chosen target was biblical history, and since the refutation had to be ‘scientific’, studying the history of the earth and life upon it was proclaimed to be a scientific enterprise, in much the same way as experimental or ‘operational’ science. But in reality, the study of past events (which I will refer to as ‘natural history’, even though that name was originally applied more broadly) is much more complex.^{28,29} It is an area that requires cooperative efforts from a variety of disciplines, including theology and philosophy. Christians admit that necessity; most atheists refuse to do so.

Dinosaur Challenges and Mysteries

How the Genesis Flood makes sense of dinosaur evidence
including tracks, nests, eggs, and scavenged bones

Despite the overwhelming evidence across the world for massive catastrophe in the rock record, evolutionists and other long-agers who scoff at the biblical record of the global Flood have long felt they had a ‘get out of jail free’ card when it comes to the fossil record of dinosaurs.

This is because fossil dinosaur tracks, nests, eggs, and scavenged bones often sit on top of vast waterborne layers containing abundant fossils. Simply put, if these layers were laid down by the Flood, and not over millions of years, how could dinosaurs be walking around, making nests and laying eggs in the middle of it all?

In this landmark book, based upon many years of patient fieldwork and literature research, Michael Oard surveys and explains the dinosaur evidence, and proposes a viable mechanism for how all this may well have occurred during the Genesis Flood. But this work, aimed at layman and specialist alike, does more than show the way forward in clearing up these dinosaur puzzles. It turns out that the dinosaur evidence, when examined carefully, often poses huge ‘challenges and mysteries’ to those who hold to the conventional view of dinosaurs dying and being fossilized over long periods of time.

Beautifully presented in full color, Dinosaur Challenges and Mysteries is much more than an invaluable contribution to any creationist’s library. It is a very readable and well-constructed reminder that any future ‘challenges and mysteries’ to the biblical account of history will similarly yield to an increased determination to pay careful attention to the evidence itself.

“Oard demonstrates that creationist scholarship can stand up to the secular academic monopoly, showing that truth does not depend on the number or funding level of researchers, but on the timeless reliability of God’s revelation.”

John Reed, Ph.D. (Geology)


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