

DISCUSSION 10

FASCINATING FOSSILS

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OUTLINE

- 1. Introduction: The fascination of fossils**
- 2. The geologic column**
- 3. Is the geologic column valid?**
- 4. The pseudofossil problem**
- 5. Precambrian fossils**
- 6. Peculiarities of fossil distribution**
- 7. Those dinosaurs**
- 8. Conclusions**
- 9. Review questions**

1. INTRODUCTION

1. INTRODUCTION

Fossils are often defined as any evidence of past life. Hence they can be highly varied such as a footprint, a shell, or just the cast of a shell, a bone, petrified wood, or coal that comes from plants. Fossils play a key role in the great controversy between science and the Bible. Fossils give us the best details obtainable about what is sometimes called “The Great History,” i.e. the history of life on earth.

1. INTRODUCTION

Fossils fascinate us. They tell of a past, and we enjoy “resurrecting” them as we try and interpret their past history.

In the very first chapter of the Bible, God is designated as the one who created the grass, trees, whales, birds, cattle, creeping things, and man, etc. In other words God created the various basic kinds of organisms that have later become fossils. This is in sharp contrast to almost all scientific texts of paleontology (the study of fossils), that indicate that the different kinds of organisms represented by the fossils evolved from each other over eons of time. Which model is true?

1. INTRODUCTION

The fossil record is not simple, but its basic organization is, and it is important to have that organization in mind when considering various interpretations.

This discussion is simply an introduction to the fossil record, especially the order or sequence of the various kinds of fossils as we climb up and down through the geologic layers. In three subsequent discussions (No. 11, 12, 13) titled: **FOSSILS AND CREATION**; and **PROBLEMS THE FOSSILS POSE FOR EVOLUTION**, Parts 1 and 2; we will consider various interpretations. All four discussions should be studied in order to understand the various interpretations of the fossil record.

2. THE GEOLOGIC COLUMN

2. THE GEOLOGIC COLUMN

There is **no place** on earth where you can find a tall column that is the **geologic column**. The term is used to designate or illustrate the vertical order of the geologic layers of the crust of the earth. The geologic column is often represented as a tall vertical stack of layers arranged in the order they are found in nature. The geologic column is more **like a map** of a narrow vertical slice, through the crust of the earth, somewhat analogous to a slice of a layered cake. Sometimes, just a small portion of the whole column in a local area can be called the geologic column.

2. THE GEOLOGIC COLUMN

The various layers of rock, especially the sedimentary ones (as illustrated in the next slide of Dead Horse Point, Utah) are where you can find various fossils. They tend to be very rare, but abundant locally. We often find **different kinds of fossils at different levels**. The order of these fossils is vital as we try and discern the past history of life. Of course, **layers lower down in the column are considered to be older** than those higher up because they would have been deposited first. **How *much* older is a major difference** between creation and evolution. Creationists think that most of the geologic column was deposited quite rapidly during the year of the Genesis Flood; evolutionists think it took billions of years to gradually lay down the various layers.



SEDIMENTARY LAYERS AT DEAD HORSE POINT, UTAH. Erosion by the Colorado River exposes some Paleozoic and Mesozoic layers.

2. THE GEOLOGIC COLUMN

While there is no place on earth where you can find a complete geologic column, the **major parts are well represented** in a number of places. The sequence of layers has been carefully studied, and by comparing the rocks, and especially the fossils they contain, it has been found that **certain kinds of fossils are typical of lower layers, while others are generally found higher up.** A few are found throughout.

2. THE GEOLOGIC COLUMN

There can be disagreements about the specific identity of a particular part of the geologic column, and there can be errors in correlating one part in one locality with another elsewhere; however, **in a very general way, the lowest layers have the simplest type of organisms, while the upper layers have both simple and more complex organisms,** It needs to be kept in perspective that even the very simplest of organisms is very complex.

The moderate increase in complexity noted as one ascends the geologic column is considered by many scientists to be very convincing **evidence of the gradual evolution** of organisms from simple to complex over billions of years. Hence, we need to give significant attention to the geologic column. Probably many scientists would give up evolution if they did not think this moderate advancement in organisms as one goes up the geologic column represents gradual evolution. Part of the creation answers to this question will be considered below and more in **Discussion 11, titled FOSSILS AND CREATION.**

2. THE GEOLOGIC COLUMN

The next slide provides the terminology used for the main divisions and subdivisions of the geologic column. They are given in the order they appear in the crust of the earth, with the oldest at the bottom. The long ages geologists usually assign to these, which differ sharply from the biblical model, are given in millions of years at the right. You may want to frequently refer to this slide when different parts of the column are mentioned later on. Try and become familiar especially with the first two columns at the left.

MAIN DIVISIONS OF THE GEOLOGIC COLUMN

EON	ERA	PERIOD	EPOCH	Putative age in Ma*
Phanerozoic	Cenozoic	Quaternary	Holocene	0.01
			Pleistocene	1.6
		Tertiary	Pliocene	5.3
			Miocene	24
			Oligocene	34
			Eocene	55
			Paleocene	65
	Mesozoic	Cretaceous	144	
		Jurassic	206	
		Triassic	248	
	Paleozoic	Permian	290	
		Carboniferous	354	
		Devonian	417	
		Silurian	443	
Ordovician		490		
Cambrian		540		
PRECAMBRIAN Proterozoic Eon				2500
Archaean Eon				4600

*Ages given represent beginning of time period in millions of years (Ma).
Dates not endorsed by author.

2. THE GEOLOGIC COLUMN

How do geologists tell which part of the geologic column they are in. Vertical location in the geologic column is very important. This can sometimes be complicated if the layers have been transported over each other. Lateral continuity of a layer can be useful. The kinds of fossils found are important and are often used as an index to identify the same layer or part of the geologic column in another locality. Sometimes radiometric dating is used, and the kind of rocks forming a layer or those of surrounding layers can be characteristic.

2. THE GEOLOGIC COLUMN

Note that there are two main divisions to the geologic column, the **Phanerozoic**, and the **Precambrian**. These two parts are very different. The **Precambrian time is considered to be around five times as long as the Phanerozoic**. In the Precambrian, the fossils are extremely **rare** and represent mostly only **microscopic** organisms. In the Phanerozoic, the fossils are relatively **abundant** and represent the **larger kinds** of plants and animals we are more familiar with.

Some parts of the earth expose only Precambrian layers; there is nothing above. Most areas have some Phanerozoic layers, especially the top ones. The part of the geologic column that one may happen to be traveling in varies a lot from one place to another since various parts of the crust of the earth have been moved up or down. Hence, altitude is not a good clue as to where you are in the column, you have to study the order.

2. THE GEOLOGIC COLUMN

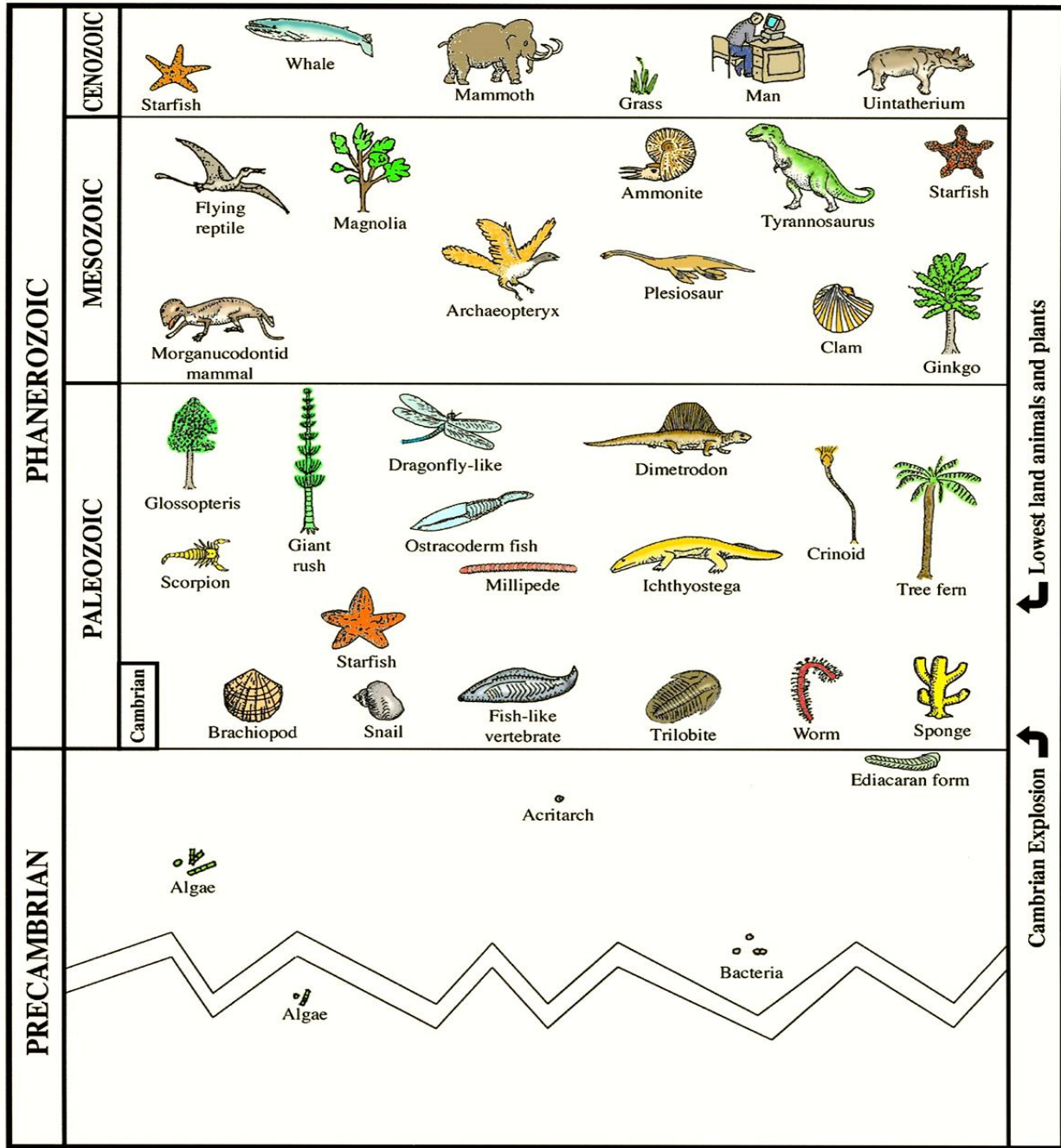
The next slide is a view of the Grand Canyon of the Colorado River in Arizona, USA. Here the layers of the geologic column are unusually thick. The rocks below the arrow are Precambrian, those above are Phanerozoic. However, only a part of the Phanerozoic is represented. The layers above the arrow represent only the Cambrian to Permian periods, and even there the Ordovician and Silurian are missing. See the slide above on the divisions of the geologic column to locate parts of the geologic column that are unfamiliar to you.



GRAND CANYON OF THE COLORADO RIVER IN ARIZONA. The river is in the gorge below the red arrow. The rocks below the tip of the arrow are Precambrian, the layers above are in the Paleozoic part of the Phanerozoic.

2. THE GEOLOGIC COLUMN

The next slide gives a sampling of various kinds of fossils we find in the geologic column. Note the **sharp contrast between the Precambrian and the Phanerozoic**. The Ediacaran fauna lies very close to the Phanerozoic, and for general comparisons can readily be associated with it.



Lowest land animals and plants

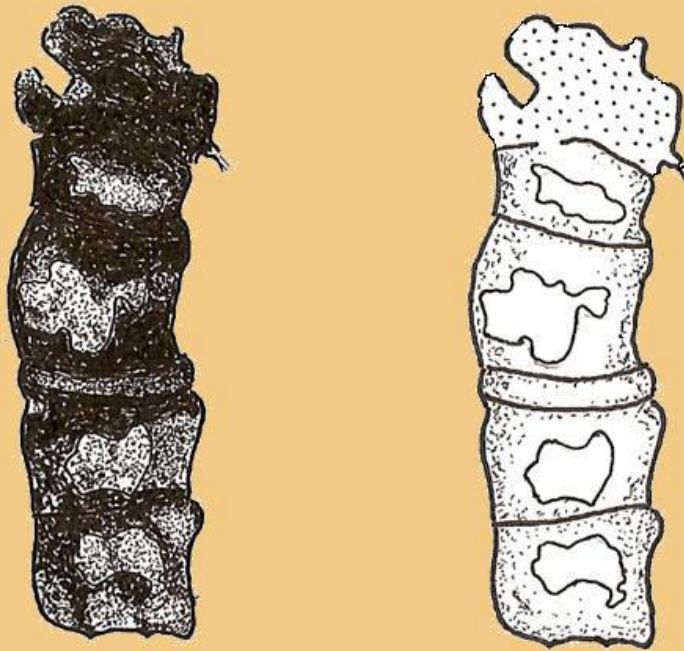
Cambrian Explosion

GENERAL DISTRIBUTION OF ORGANISMS THROUGHOUT THE GEOLOGIC COLUMN

2. THE GEOLOGIC COLUMN

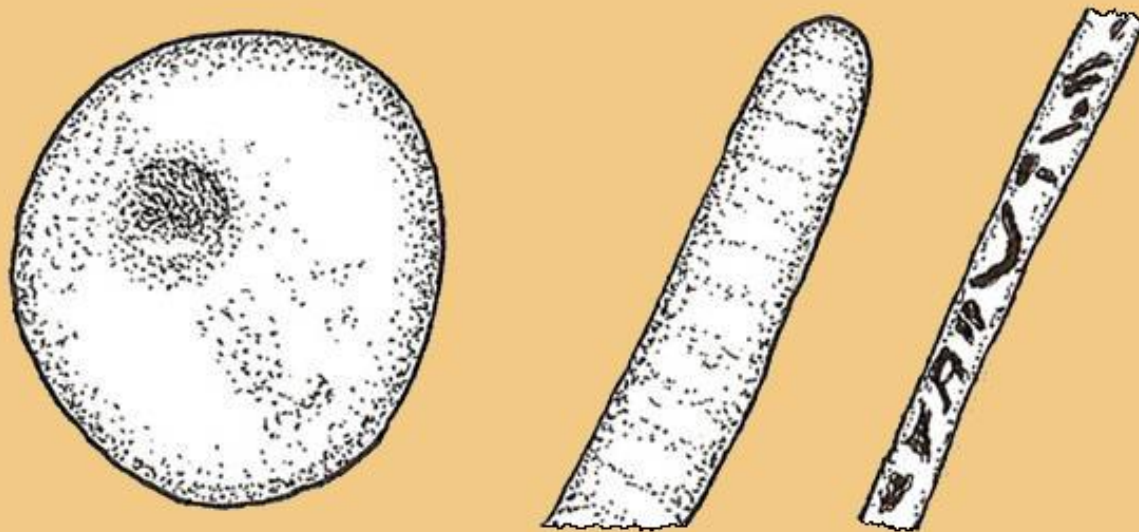
A BRIEF CLIMB THROUGH THE GEOLOGIC COLUMN

The next slides are examples of just a few of the fossils one finds as one **goes up** through the geologic column from Precambrian up through the Phanerozoic. The first two slides represent microscopic organisms of the Precambrian and the large layers in the third slide (Stromatolite) are also Precambrian that are said to be produced by microscopic filaments. Higher, just above the Precambrian, starting in the Cambrian and on up, the fossils get much larger, such as the illustration of a trilobite, etc.



Primavifilum laticellulosum, left, and interpretive drawing, right. Considered to be among the earliest known forms of life on earth. Putative age about 3,465 million years.

After Schopf, WJ. 1993. Science 260:644.



Microscopic organisms found in the Gunflint Chert which is considered to be from the Proterozoic Eon. The fossils are considered to be some 2000 million years old.



**The curved layers (arrow) are interpreted as a stromatolite built by algae.
From the Precambrian (Proterozoic) of the Grand Canyon.**



Trilobite from the Cambrian Burgess Shale, Canada



Nautiloid (arrow), Carboniferous Period, Grand Canyon




Fossil tree (arrow) from the Carboniferous of Nova Scotia



Cast of a brachiopod shell (arrow). From the Permian of West Texas

A photograph of a reddish-brown rock slab, likely a fossiliferous sedimentary rock. The surface is textured and shows various small, circular and oval-shaped impressions, which are likely fossil tracks. A prominent, larger, three-toed track is visible in the lower-left quadrant. A small, dark, circular coin is placed on the rock surface in the upper-right quadrant to provide a sense of scale. The rock has a mottled appearance with some darker and lighter patches, possibly due to mineral inclusions or weathering. The overall color is a range of reds and browns.

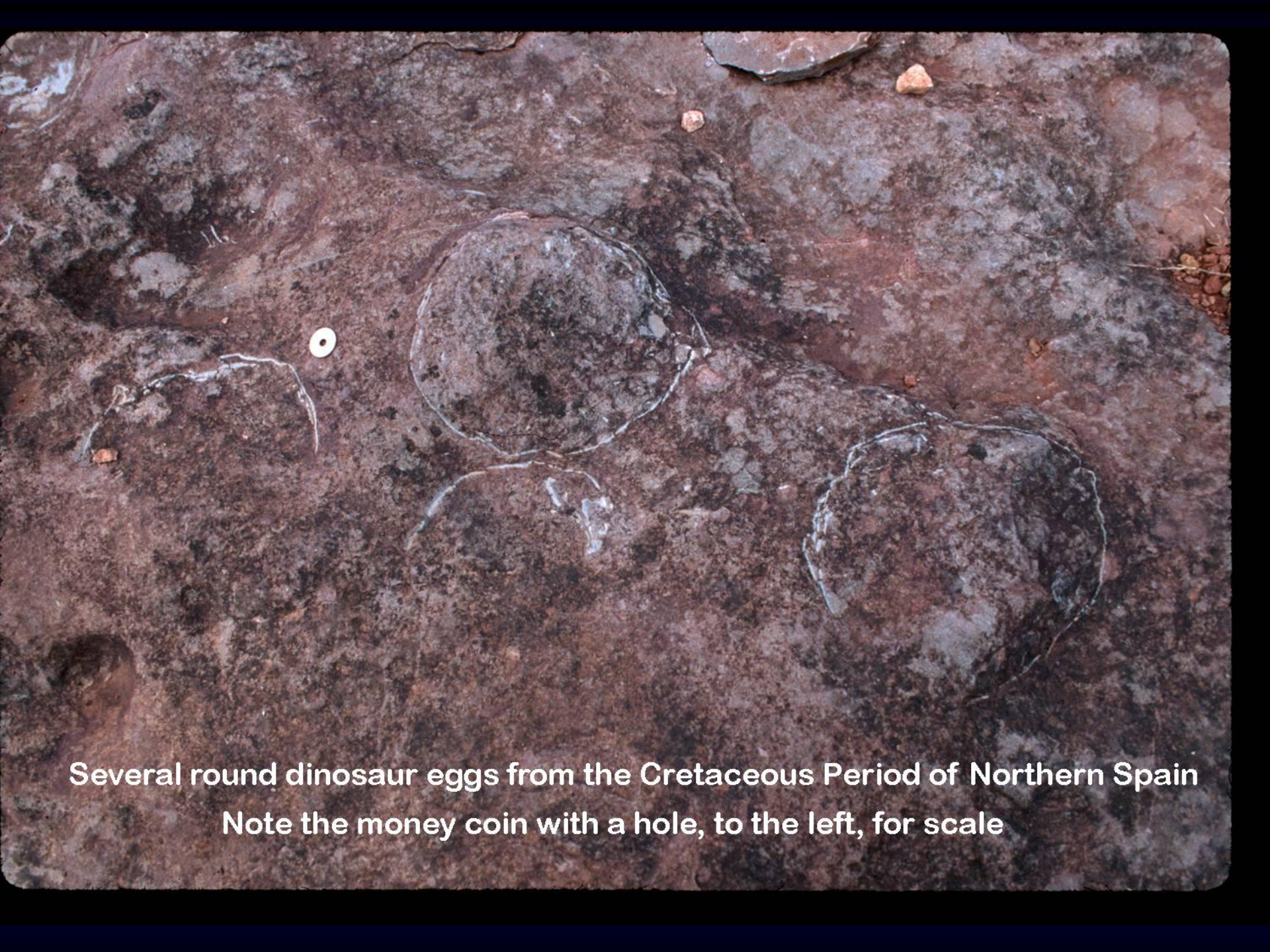
Track of three-toed dinosaur. Triassic Period, from Utah.
Note coin for scale.



**Dinosaur bones from the Jurassic Period. Found in Utah.
Longest bones are nearly 2 meters long.**



Black coal seams from the Cretaceous Period. Castle Gate, Utah



Several round dinosaur eggs from the Cretaceous Period of Northern Spain
Note the money coin with a hole, to the left, for scale



Model of *Tyrannosaurus rex*. Cretaceous Period. Vernal, Utah.



Giant ammonite from the Cretaceous of Germany



Fossil fish (dark object). Eocene Epoch. Wyoming



**Petrified tree (arrow), about 20 cm in diameter.
Eocene Epoch, Wyoming. Note the tree rings.
Layers on outside are not part of the tree.**



Giant sloth. Pleistocene Epoch. South America

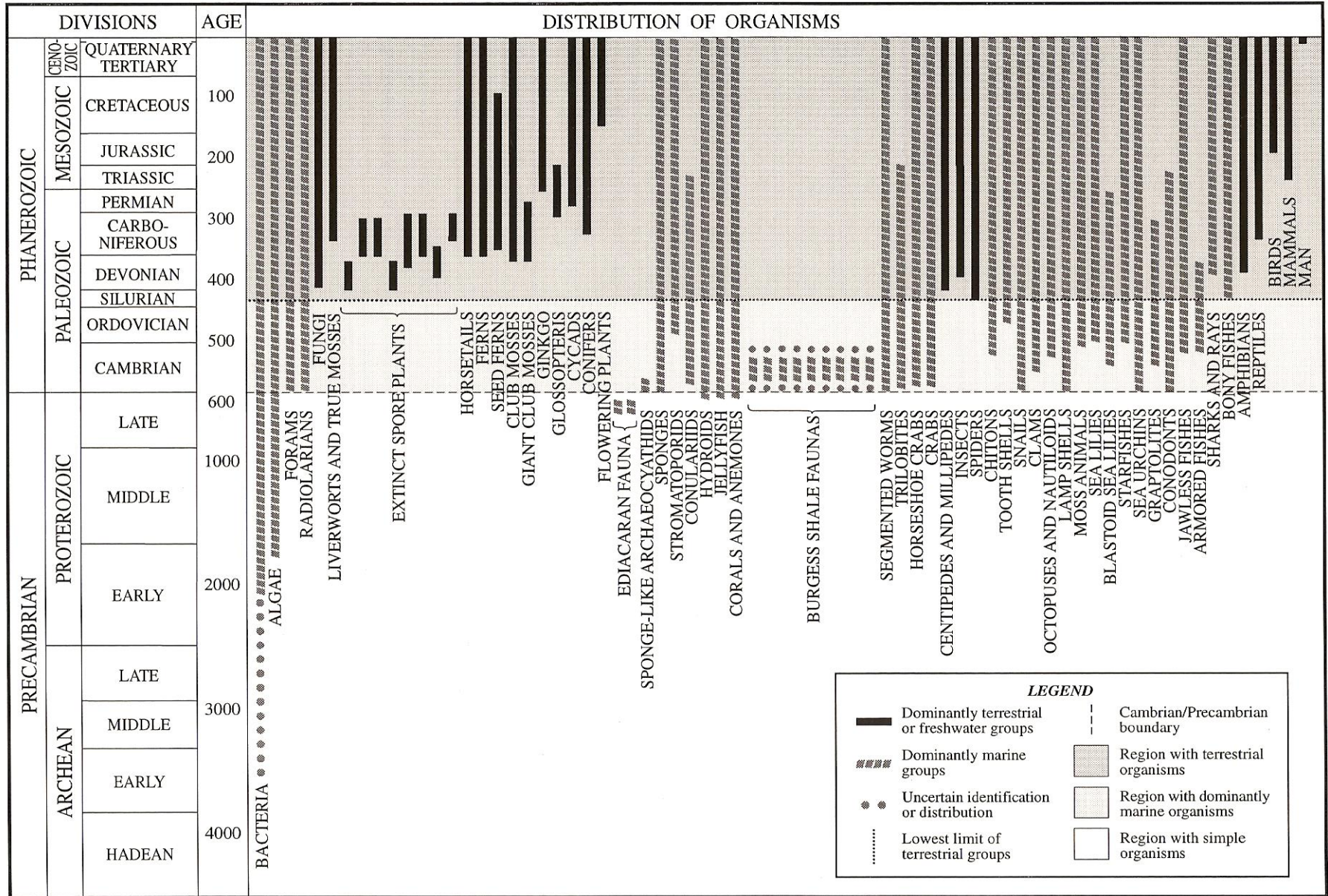


Glyptodon(t), a mammal from South America
Pleistocene Epoch. Shell is over 1 m long.

2. GEOLOGIC COLUMN

DISTRIBUTION OF VARIOUS KINDS OF ORGANISMS THROUGH THE GEOLOGIC COLUMN

The next slide indicates by vertical bars the distribution of various kinds of organisms through the geologic column. The rock layers of the crust of the earth run in a very general way horizontally through this diagram with the deepest ones below. Solid bars are for land (terrestrial) organisms, while hatched ones are for marine (oceanic) organisms. The main divisions of the column are at the left. The standard evolutionary time scale shown towards the left (“AGE”) is not linear, being more compressed in the lower parts. The figures represent millions of years of standard geologic time, not biblical history. These dates undergo minor revisions from time to time and do not always exactly agree with those given elsewhere, even in these discussions.



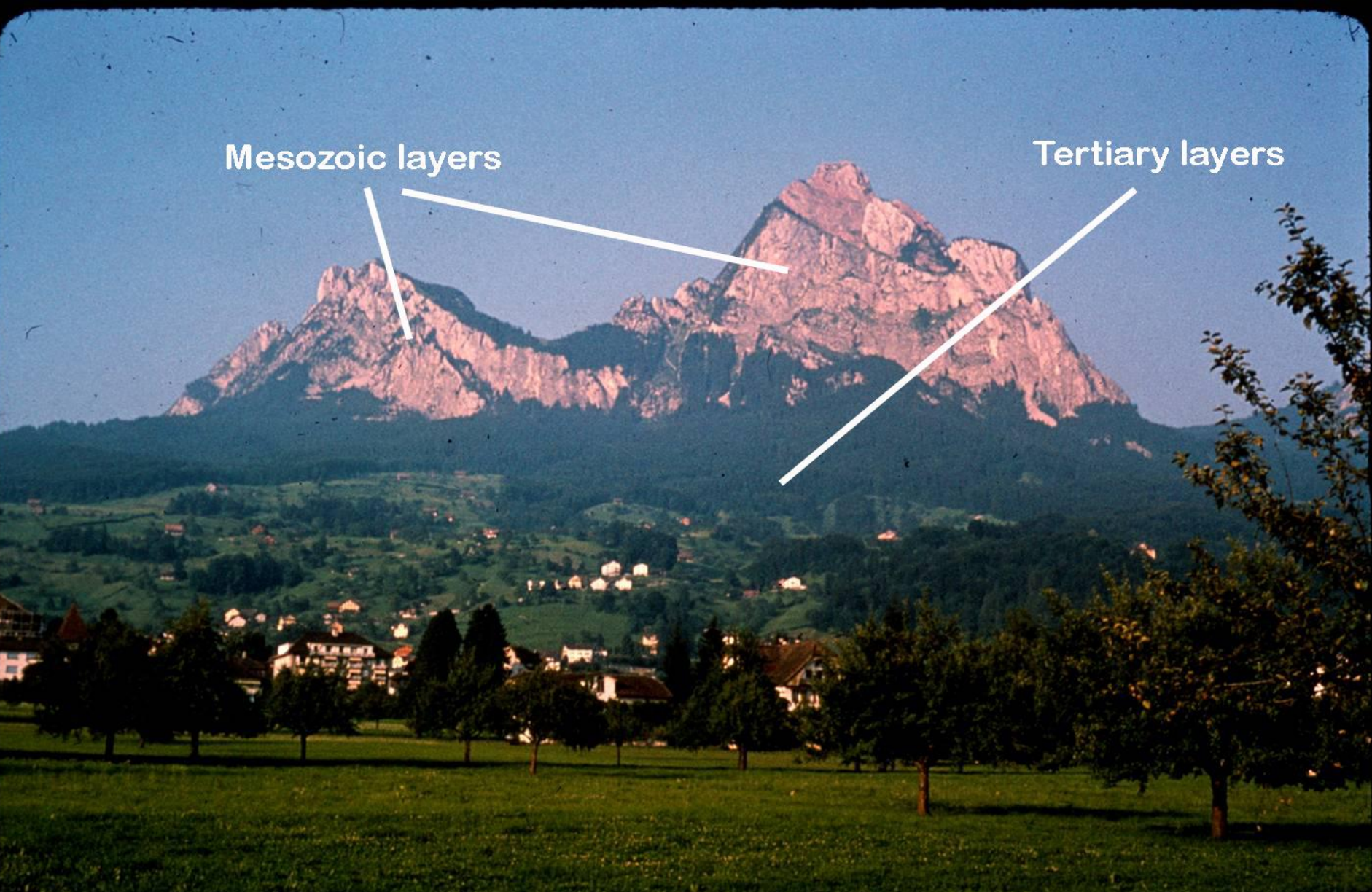
SPECIFIC DISTRIBUTION OF ORGANISMS IN THE GEOLOGIC LAYERS. Putative ages are given in millions of years and are not endorsed by the author

**3. IS THE
GEOLOGIC
COLUMN VALID?**

3. IS THE GEOLOGIC COLUMN VALID?

Evolutionists believe the geologic column is valid, some creationists also believe it is generally correct, while other creationists deny its validity. These latter creationists point to cases where younger parts of the geologic column lie below older parts. However, this could be due to older layers sliding over younger ones.

An example is the Mythen Klippen of central Switzerland illustrated in the next slide. The two light colored peaks consist of Mesozoic layers that from bottom to top are of Triassic, Jurassic, and Cretaceous formations. These Mesozoic layers lie on top of softer Tertiary (Eocene) deposits that in the picture are covered with the vegetation above the village houses. As you can see from the Geologic Column terminology slide, the Tertiary is suppose to be above the Mesozoic, but here it is below.



Mesozoic layers

Tertiary layers

MYTHEN PEAKS IN SWITZERLAND. The two peaks are composed of the same sequence of layers, and the lowest layers at the base of the right peak override the top layers of the left peak indicating the right peak overrode the left one.

3. IS THE GEOLOGIC COLUMN VALID?

Here we have an examples of out of order layers, but this appears to be due to sliding. The explanation for this is that the older layers, i.e. the two peaks, were pushed over the younger layer and evidence indicates that they have slid. Part of the evidence for sliding is that the right peak which has **the same order of layers** (Triassic, Jurassic, Cretaceous) as the left peak, lies in part over the left peak. Note that the **layers in the peaks dip steeply down towards the right**, hence the top layer of the left peak lies under the lowest layer of the right peak because the right peak slid towards the left and over the left one. It seems clear that this is a disturbed area and the inconsistency of the geologic column is likely due to major sliding activity. Hence this appears to be an example of layers being pushed over each other and not of the geologic column being out of order, although some creationist claim it is.

3. IS THE GEOLOGIC COLUMN VALID?

Other examples of the geologic column being out of order come from other parts of the Alps and the Rocky Mountains. These all show some evidence of transport, as was the case for the Mythen Klippen. Hence, the argument that there is no validity to the geologic column, because it is occasionally out of order, does not seem to be a secure one.

3. IS THE GEOLOGIC COLUMN VALID?

In parts of the earth, where the layers are not disturbed, the geologic column appears generally in the right order. The next slide of the layers in the Grand Canyon **are not disturbed, and there the geologic column appears in order. You find no mammals in the Grand Canyon layers, while they are found elsewhere in higher Mesozoic and Cenozoic layers of the geologic column. So it becomes difficult to suggest that there isn't some general validity to the order of the geologic column. Conversely, keep in mind that the disturbed regions of the earth, where we sometimes find the geologic column out of order, may well be evidence for significant disturbances associated with the great catastrophic Genesis Flood.**

While there occasionally are errors in identifying some parts of the geologic column, especially in isolated areas, the identification of the general parts of the geologic column appears reliable and we shall proceed from that perspective.



GRAND CANYON. This is a relatively undisturbed area. Note that the same layers can be followed across the whole region.

4. THE PSEUDOFOSSIL PROBLEM

4. THE PSEUDOFOSSIL PROBLEM

Most of the fossils illustrated above represent real living organisms. However, sometimes it is not easy to tell if you have a real fossil or just something that **looks like a fossil but is really something else** that did not originate from a living organism. Such false fossils are called *pseudofossils*. The problem is especially prevalent in the Precambrian, where evolutionists are searching for what they think were the very first forms of life on earth. Pseudofossils also occur in the Phanerozoic.

4. THE PSEUDOFOSSIL PROBLEM

Two of the fossils we illustrated earlier above have been considered to be pseudofossils. The very first example of a fossil that we gave you earlier which is the microscopic *Primavifilum laticellulosum* is part of a group of fossils found in Australia that have been hailed as earth's oldest fossils. However, recently eight scientists from leading universities have challenged this interpretation (**Brasier MD**, et al. 2002. *Nature* 416:76-81). They found many bizarre shapes, and identified the black material as **graphite**. They have concluded that these are not of biological origin, hence are **not fossils**.

4. THE PSEUDOFOSSIL PROBLEM

Stromatolites (this is the third example in the long series of fossils we gave above – they were from the Grand Canyon) and are supposed to be layers built by microorganisms. They are also a problem, because often convincing evidence for real organisms cannot be found. Scientists often draw their conclusions about stromatolites on the basis of the general shape of rock layers, but these could simply be **bent sedimentary layers**. One specialist (**Hoffman**, pages 178-191, in Ginsburg 1973 *Evolving Concepts in Sedimentology*) comments: “**Something that haunts geologists working on ancient stromatolites is the thought that they may not be biogenic [i.e. of biological origin] at all.**” If they are not of biological origin, they are not fossils.

4. THE PSEUDOFOSSIL PROBLEM

Only a few Precambrian fossils are clearly indisputable. One scientific report (**Schopf WJ, Klein C, ed. The Proterozoic Biosphere, p 1035-1053**) reports on **nearly 300** different named species that are either dubious fossils (dubiofossils) or false fossils (pseudofossils). On the other hand, there appear to be some genuine Precambrian fossils. The second example of fossils we gave in the long series above are from the Precambrian Gunflint Chert and appear authentic. In the case of Precambrian fossils, as well as elsewhere, you do not want to accept what you read in the scientific literature without thorough investigation.

5. PRECAMBRIAN FOSSILS

5. PRECAMBRIAN FOSSILS

Do the valid Precambrian fossils represent early simple life before it had evolved to advanced forms? There are some serious questions about this.

The examples of fossils found in the Precambrian are almost all microscopic (i.e. like microbes). Interestingly, at present, we also find **many kinds of living microorganisms in the rocks** forming the surface of the earth. They are mainly bacteria, protozoa, fungi and rare algae. They are found especially in sediments, including coal and limestone. Often they are found at concentrations of 1000 per gram, but may reach 10 million per gram. Live algae, that “require” light are sometimes found 200 meters down! Live bacteria have been found in granite at depths of 4 kilometers.

5. PRECAMBRIAN FOSSILS

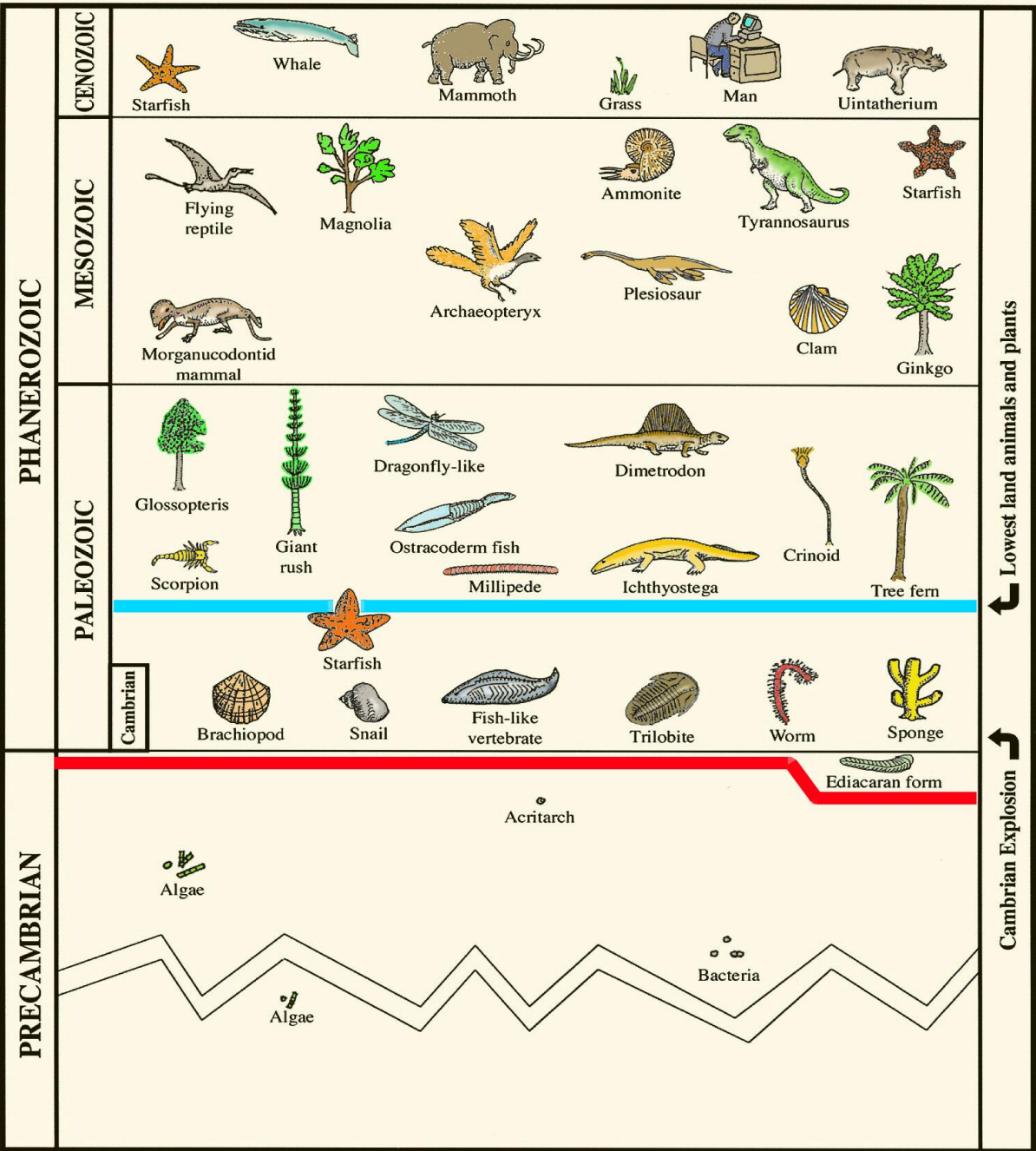
The recognition of abundant life in the deep rocks raises a **significant question about genuine Precambrian microscopic fossils.** Are these fossils from organisms that, according to evolutionists, lived billions of years ago, when the rocks were being deposited, or are these from organisms that lived and were fossilized in the rocks much more recently? Some scientists point out that this is a question that has not been adequately addressed. **The simple fossils of the Precambrian could be of recent origin from organisms living in the rocks recently which became fossilized recently.** If that is the case then the simple life found in Precambrian rocks does not necessarily represent simple ancient life in the early stages of the evolution of life; it could represent recent microscopic life.

6. PECULIARITIES OF THE FOSSIL SEQUENCE

6. PECULARITIES OF THE FOSSIL SEQUENCE

As you look at the illustration of fossil distribution in the next frame note these peculiarities:

- 1. The lowest part below the red line has a few microscopic fossils. A very few dubious larger fossils, including animal tracks are sometimes reported. This is the Precambrian.**
- 2. Very good and abundant marine animal fossils are found in the region between the red and blue lines, which is the lower Paleozoic. Terrestrial (land) animals and plants are virtually absent there. Microscopic fossils are present.**
- 3. Higher up, terrestrial (land) organisms and marine organisms are found above the blue line up to the top. The upper Paleozoic and Mesozoic harbor a great variety of all kinds of strange plants and animals that are not now living on the earth. Dinosaurs are an example. In the Cenozoic we find less diversity of major kinds, and organisms we are more familiar with such as mammals and flowering plants.**



GENERAL DISTRIBUTION OF ORGANISMS THROUGHOUT THE GEOLOGIC COLUMN

6. PECULARITIES OF THE FOSSIL SEQUENCE - 2

Obviously the fossil record reveals a saga of past life that is really different in many respects from present life. On the other hand, some organisms, like starfish, hardly differ throughout the fossil sequence.

Evolutionists interpret this fossil record as slow gradual evolution over hundreds of millions of years. Creationists interpret it as mostly the result of a recent creation by God that is followed by the astonishing worldwide Genesis Flood described in the Bible. We will discuss specifically the fossil sequence in the next discussion (No. 11): FOSSILS AND CREATION.

7. THOSE DINOSAURS

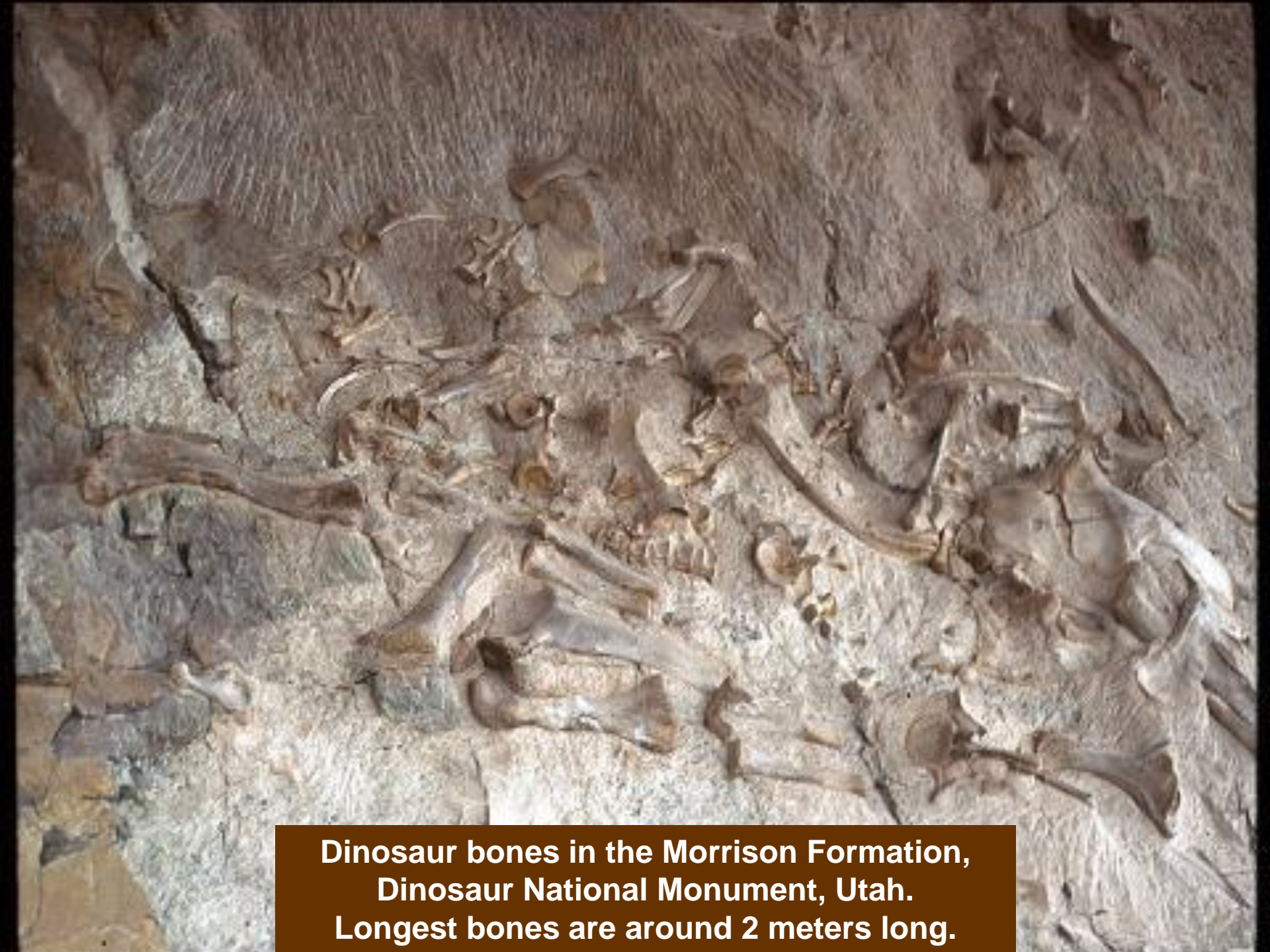
7. THOSE DINOSAURS

A lot of the general fascination for fossils comes from huge astonishing dinosaurs. Their menacing teeth and odd anatomy contribute further to the intrigue. They have become the most popular icon of the fossil world. However most dinosaur fossils are small, in the dog to deer range of size.

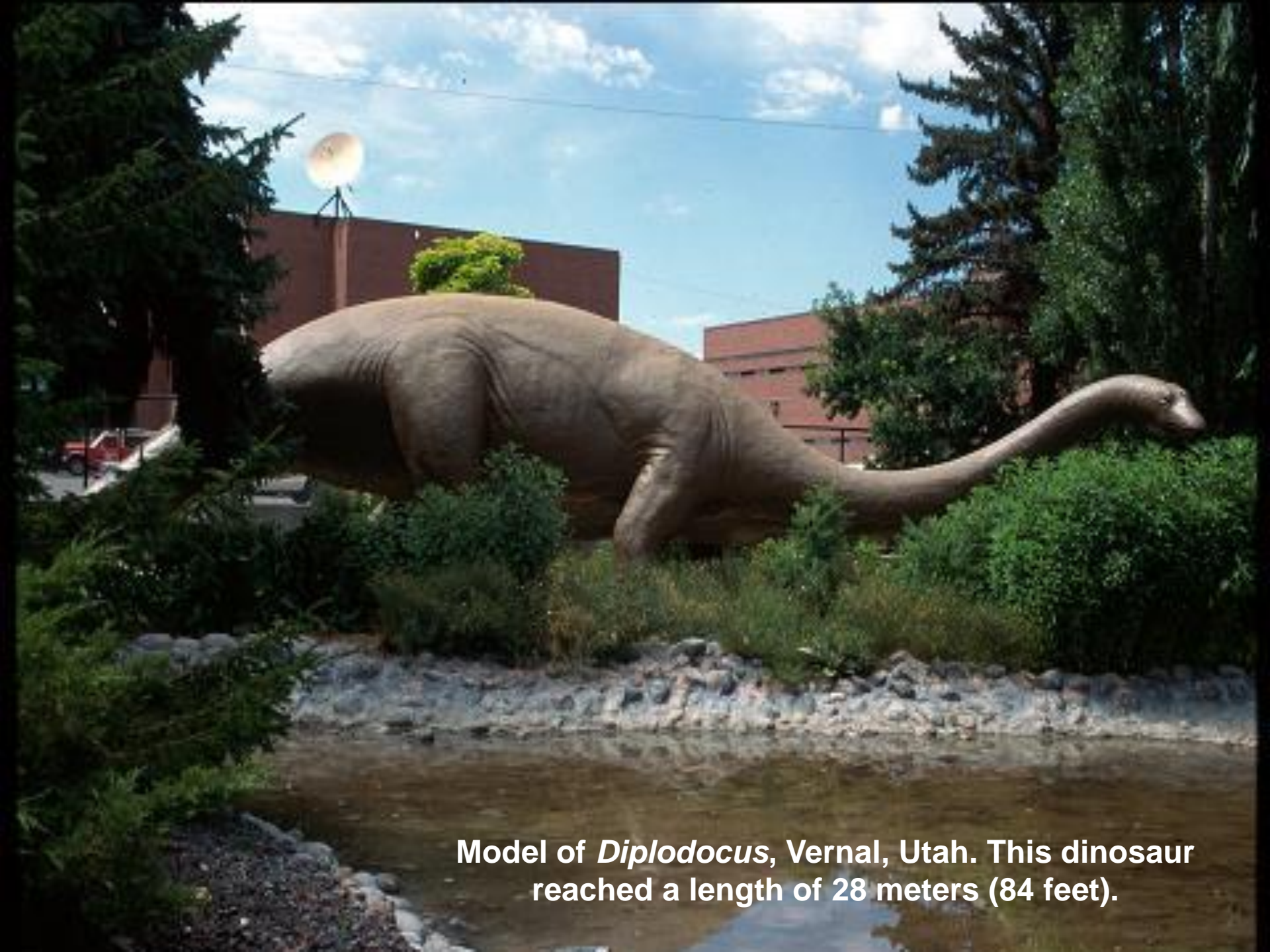
Dinosaur fossils are found on all continents of the earth, including Antarctica. Their fossils lie in the Mesozoic part of the geologic column.

The next slide shows a pile of fossil dinosaur bones found in the Jurassic Morrison Formation in Dinosaur National Monument, Utah. The longest bones are around 2 meters long. This mixed assemblage of bones is interpreted to have been transported there by water.

The slide after the next is a life-size model of a *Diplodocus* dinosaur.



**Dinosaur bones in the Morrison Formation,
Dinosaur National Monument, Utah.
Longest bones are around 2 meters long.**



Model of *Diplodocus*, Vernal, Utah. This dinosaur reached a length of 28 meters (84 feet).

7. THOSE DINOSAURS

Dinosaurs raise a lot of questions, and that is part of their fascination.

Evolutionists have several ideas as to which group of reptiles they evolved from, but because good connecting links between dinosaurs and their supposed reptile evolutionary ancestors have not been found, there is no final agreement. Also there is no agreement as to why dinosaurs disappeared. We tend to find fossil dinosaurs together in large local graveyards over the world. The popular media like to speak of a huge meteoritic impact killing them off. However, a number of scientists point out problems with that idea. One of the problems is that according to their position in the fossil record and the assumed long geological ages, they do not appear to have died off all at the same time.

7. THOSE DINOSAURS

Creationists also have many questions about dinosaurs. A plausible scenario is that since dinosaurs are a rather unique type of organism, they were part of the original fauna created during creation week. Before the Genesis Flood, because of: (1) the curse on nature because of sin (Genesis 3:17-18), and/or (2) selective hybridization like we now do for various breeds of dogs that results in tiny to huge varieties, and/or (3) genetic engineering; this resulted in some huge predatory dinosaurs that were not part of the original creation, but originated from smaller dinosaurs.

Samples of the smaller original varieties of dinosaurs were likely preserved on the ark during the Flood, while the huge modified ones were not. Those dinosaurs not on the ark perished and were preserved as fossils, and we now find some of them in the sedimentary rock layers.

7. THOSE DINOSAURS

When the dinosaurs that survived in the ark attempted to repopulate the earth after the Flood, they did not survive the challenge of a changed environment or the competition from other kinds of animals, and they died out.

These are only suggestions. We have few facts to back this up. As is the case for many kinds of animals, dinosaurs are not mentioned specifically in the Bible.

**8. CONCLUSIONS
ABOUT
FASCINATING
FOSSILS**

8. CONCLUSIONS

Fossils are very important to the study of the past history of life on earth, because they can give us some clues about a past we cannot now observe and that is difficult to analyze.

The geologic column reflects in general the order of fossil distribution, however details are subject to reinterpretation.

The identification of Precambrian fossils is often tenuous and the time of their fossilization is not adequately established.

There is a significant number of organisms in the fossil record that are different from what we now find on the earth.

The next three discussion topics will deal with the two major contrasting interpretations of this fossil record: (1) long slow gradual evolution, or (2) recent creation buried by the Genesis Flood.

9. REVIEW QUESTIONS

(Answers given later below)

9. REVIEW QUESTIONS - 1

(Answers given later below)

- 1. Explain why the fossil record is so important in the study of past life on earth.**
- 2. Describe in your own words the geologic column.**
- 3. How do geologists and paleontologists tell what portion of the geologic column they are in?**
- 4. What are the main differences between the lower Precambrian fossils and the Phanerozoic fossils that lie just above?**

REVIEW QUESTIONS - 2

(Answers given later below)

- 5. A number of deep microscopic Precambrian fossils that appear genuine have been described, and are considered by evolutionists to represent early forms of life that lived long before more advanced life evolved. What is a likely creationist explanation for this evidence used for evolution?**
- 6. Why do a number of creationists suggest that there is no validity to the geologic column? Why do other creationists feel that it is valid?**
- 7. Were the dinosaurs present on Noah's ark?**

REVIEW QUESTIONS AND ANSWERS -1

(Answers given later below)

1. Explain why the fossil record is so important in the study of past life on earth.

From the perspective of finding out details about the kind of past life on earth, there is no better source of information. The order in which we find fossils in the rock layers is useful in interpreting depositional factors.

2. Describe in your own words the geologic column?

It is a hypothetical column that represents the order of the rock layers in the crust of the earth. It is somewhat like a map of a thin vertical slice through the rock layers. In the geologic column and in the rock layers, the oldest rocks are at the bottom and the youngest on top. What is called the geologic column can represent just a small local portion or usually a major part of the crust of the earth, etc..

REVIEW QUESTIONS AND ANSWERS - 2

(Answers given later below)

3. How do geologists and paleontologists tell what portion of the geologic column they are in?

Vertical position and lateral continuity of the layers. Fossils that match others, radiometric dating, and the kind and order of rocks forming the layers on a local or regional scale are also used.

4. What are the main differences between the lower Precambrian fossils and the Phanerozoic fossils that lie just above?

The Precambrian fossils are rare, almost all are microscopic, or produced by the assumed effect of the work of microorganism resulting in layered stromatolites. Many pseudofossils, which are not really fossils, have been described in the Precambrian. Just above in the Phanerozoic, fossils are much larger, highly varied, and much more abundant.

REVIEW QUESTIONS AND ANSWERS - 3

(Answers given later below)

5. A number of deep microscopic Precambrian fossils that appear genuine have been described, and are considered by evolutionists to represent early forms of life that lived long before more advanced life evolved. What is a likely creationist explanation for this evidence used for evolution?

Since many microscopic organisms now live in the deep rocks, the tiny fossils evolutionists suggest as early ancient life may well represent simple organisms that lived, died and were fossilized only recently in the deep rocks.

6. Why do a number of creationists suggest that there is no validity to the geologic column? Why do other creationists feel that it is valid?

There are several places in the crust of the earth where the geologic column is out of order and this is considered to be strong evidence that the geologic column is invalid. Other creationists point out that where the layers are out of order, these appear to be disturbed areas where older layers have been pushed up over younger ones, hence do not invalidate the general order of the geologic column.

7. Were the dinosaurs on Noah's ark?

Likely the smaller created variety were, while the modified larger ones all perished in the Flood.

ADDITIONAL REFERENCES

For further discussions by the author (Ariel A. Roth) and many additional references, see the author's books titled:

1. **ORIGINS: LINKING SCIENCE AND SCRIPTURE.** Hagerstown, MD. Review and Herald Publishing Association.
2. **SCIENCE DISCOVERS GOD: Seven Convincing Lines of Evidence for His Existence.** Hagerstown, MD. Autumn House Publishing, an imprint of Review and Herald Publishing Association.

Additional information is available on the author's Web Page: Sciences and Scriptures. www.sciencesandscriptures.com. Also see many articles published by the author and others in the journal **ORIGINS** which the author edited for 23 years. For access see the Web Page of the Geoscience Research Institute www.grisda.org.

Highly Recommended URLs are:

Earth History Research Center <http://origins.swau.edu>

Theological Crossroads www.theox.org

Sean Pitman www.detectingdesign.com

Scientific Theology www.scientifictheology.com

Geoscience Research Institute www.grisda.org

Sciences and Scriptures www.sciencesandscriptures.com

Other Web Pages providing a variety of related answers are: Creation-Evolution Headlines, Creation Ministries International, Institute for Creation Research, and Answers in Genesis.

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