

# Science and the Bible

A Course of Study  
by  
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Winter, 2008 (Continued)



This is week 13 in a course of study in Science and the Bible.

We will look at Day 5, creation of the first animal life.

We will discuss evolution a bit, but I would like to put off a full discussion until we are done with the Genesis Creation story.

## Genesis 1:20-23, Day Five: Creation of the First Animals



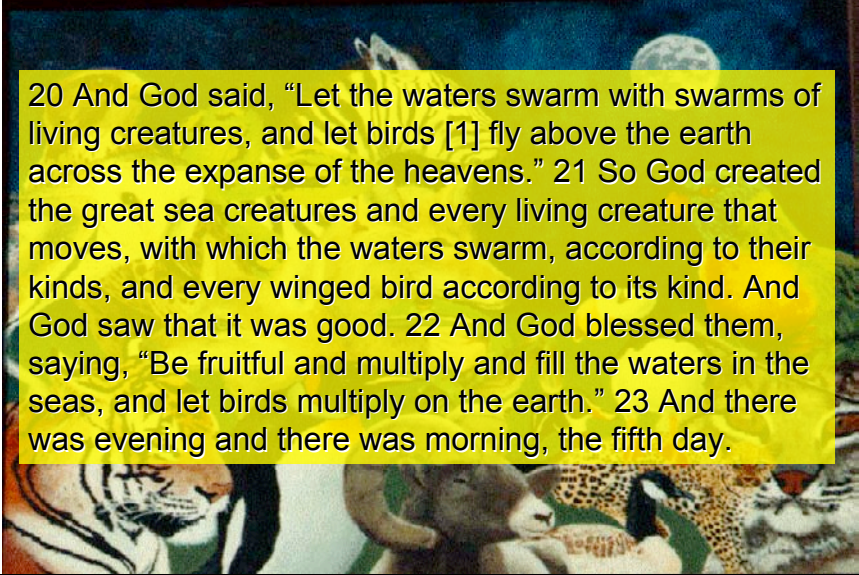
Days five and six concern the creation of animals.

As we noted last week, animal life differs from plant life by the use of certain genes, called the homeobox or hox genes, which regulate the body plan. Plants do not have detailed body plans controlled by genes. At least, that is the current thinking about what distinguishes plants from animals. This makes animal growth and development more complex than plant development.

For example, many animals have a left-right symmetry that involves non-adjacent body parts. Plants have a kind of symmetry but it is mostly seen by the form of a single part -- such as a leaf -- or determined by the requirement for balance and stability -- such as the branches that grow from a stem or trunk.

Many parts of animal bodies are a complex combinations of a body plan -- legs, arms, wings, etc. They are formed by a whole package of genes that are expressed in a controlled sequence.

## Genesis 1:20-23, Day Five: Creation of Sea and Air Animals



20 And God said, "Let the waters swarm with swarms of living creatures, and let birds [1] fly above the earth across the expanse of the heavens." 21 So God created the great sea creatures and every living creature that moves, with which the waters swarm, according to their kinds, and every winged bird according to its kind. And God saw that it was good. 22 And God blessed them, saying, "Be fruitful and multiply and fill the waters in the seas, and let birds multiply on the earth." 23 And there was evening and there was morning, the fifth day.

But before we get into that, let's look at the Genesis account of the Fifth Day.

It is a scientific fact, accepted almost universally, that the first life began in the oceans. So it is particularly appropriate, I think,

That the Genesis account begins its discussion of animal life with "swarms of living creatures" swimming in the oceans.

The word translated "birds" in verse 20 is a more general Hebrew word meaning "flying creatures." This term would cover insects as well as what we think of as birds. And in fact, insects are very important in creation, because they are important in plant polination.

So verse 20 uses general terms for both "sea creatures" -- from plankton to whales -- and for "flying animals" -- from insects to birds.

Note also that the flying creatures fly through the "firmament" -- this use of the Hebrew word is one reason why Dr. Newman does not think that Moses had a solid dome in view when he used the word.

Verse 21 focuses more specifically on the large sea creatures -- perhaps whales or even aquatic animals such as crocodiles (for example the monsters (dragons?) of Job 41 -- see also

## Genesis 1:20-23, Day Five: Creation of Sea and Air Animals



I would like to talk a bit about the variety of animals and in particular about similarities which those who believe in natural evolution point to as proof of "common descent."

I believe that Proverbs 1:7 is quite literally true: **"The fear of the LORD is the beginning of knowledge."** If you include God as part of your beliefs, than you are open to truth in a way that a person who insists on a purely naturalistic belief system cannot be. To put it simply, if I believe that God is the creator, then I am free to accept any available information about how he went about his creation, including intelligent design or natural development -- after all, Genesis 1:20 does not use the word for creation from nothing, the word used in Genesis 1:1. Even humans are created using "the dust of the earth". An atheist or more generally, any person who insists on purely natural evolution does not have that flexibility.

Genesis 1:20-23, Day Five:  
Creation of Sea and Air Animals  
Body Plans

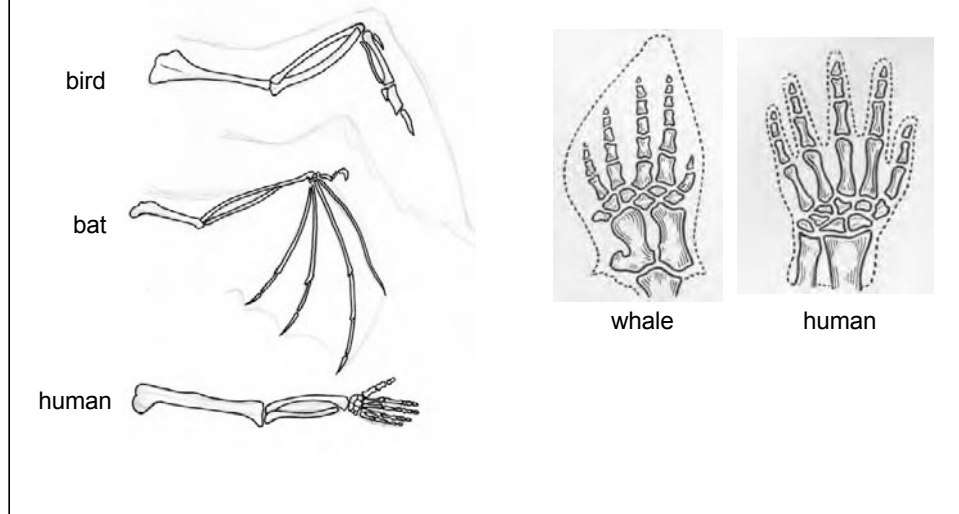


Show Video "Evolution\_Genetic\_Tool\_Kit." and "Neo-Darwinism's Homology Problem"

Note assumptions:

- Similarity means common ancestor -- therefore the use of the same "central dogma" means common descent! It could also mean the same Creator who re-used genes.
- Note re-use of the same gene package -- without asking where that gene package came from in the first place!
- Doesn't distinguish between hox and the underlying package genes.
- Doesn't distinguish gene expression from gene coding.

Genesis 1:20-23, Day Five:  
Creation of Sea and Air Animals  
The leg, arm and wing genes.



The "evo-devo" branch of evolution. Human arm, whale flipper, bird wing.

Legs, arms, hands and wings all come from the same package of genetic material.

The hox genes control how this package is expressed in the different species.

A person who believes in Creation, would argue that God used the same basic genetic package over and over.

This similarity does not necessarily imply descent from a common ancestor.

Nor does belief in a Creator necessarily imply that God did not use natural development when appropriate.

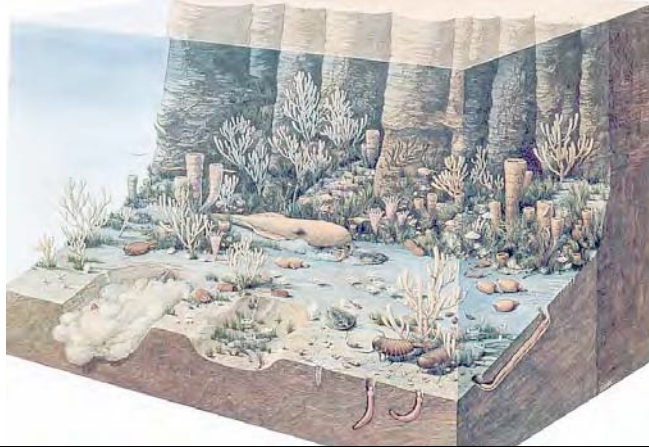
How God used these common packages is something we can investigate with perfect freedom.

A natural evolutionist argues that the similarity of very complex structures and common genetic material

must imply a common ancestor. If he doesn't accept an intelligent Creator, he has no other option. He does not

## Genesis 1:20-23, Day Five: Cambrian Explosion

All body plans (phyla) appear suddenly at (almost) the same time in the fossil record.

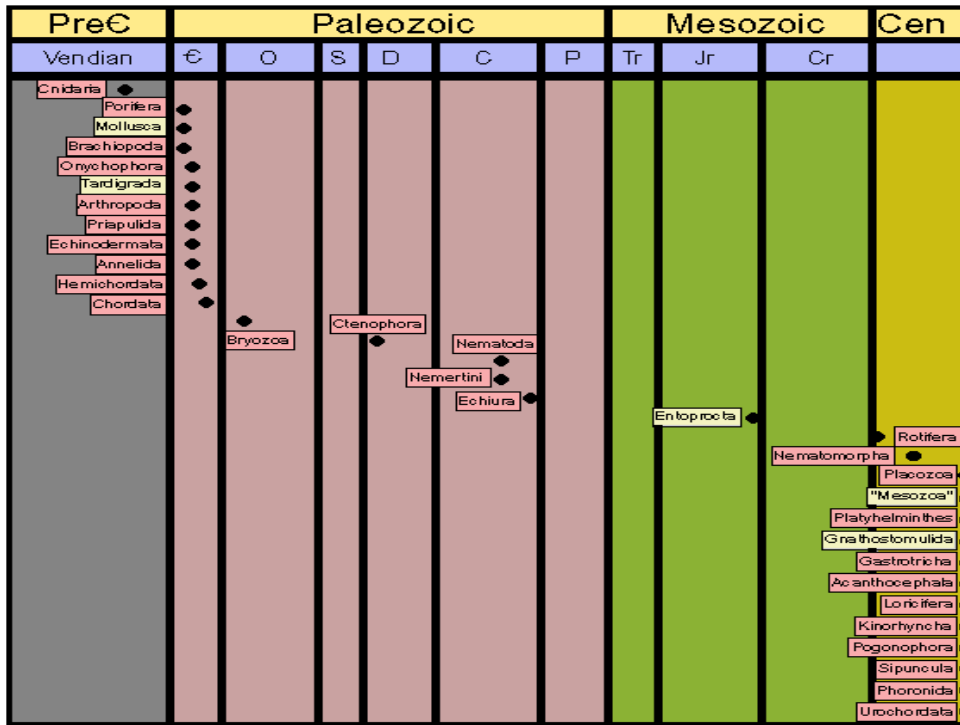


"Almost every metazoan phylum with hard parts, and many that lack hard parts, made its first appearance in the Cambrian.

The only modern phylum with an adequate fossil record to appear after the Cambrian was the phylum Bryozoa, which is not known before the early Ordovician."

<http://www.ucmp.berkeley.edu/cambrian/camblife.html>

"The Cambrian explosion or Cambrian radiation describes the seemingly rapid appearance of most major groups of complex animals in the fossil record"  
Wikipedia



First appearances in the fossil record. These dates are always subject to change as new fossil discoveries occur.

The Cambrian era (in fact most of the eras) was named by English geologists. The Cambrian was the rock layer that was the Highest then known to contain animal fossils.

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Genesis 1:20-23, Day five:  
Cambrian Explosion

Example of segmented body plan  
Trilobite



# Topics for discussion

- More on body plans
  - the 39 phyla
  - all suddenly appear in the fossil record "Cambrian explosion"
  - body segments
  - experiments on hox genes -- growing legs, eyes and antennae
- Yes - there is a progression of complexity,  
but ALL life is exceedingly complex!!!
- \* Talk about extinctions -- bring in Psalm 104:

# Topics for discussion

- Talk about extinctions -- bring in Psalm 104:27-30  
I don't necessarily believe that these verses have the Extinctions in mind, but it is an interesting thought!

